TESTING CERT #3478.01

TEST REPORT

EUT Description	**GSM, WCDMA and LTE Cellular adapter card**
Brand Name	**Intel**
Model Name	**7262M2WW**
Serial Number	**IMEI: 004402523022105/ 004402523021818 / 004402523022303** (see section 4)
FCC/IC ID	**FCC ID: PD97262WW / IC ID: 1000M-7262WW**
Antenna type	**Dipole, Pulse, Part Number SPDA24700/2700**
Hardware/Software Version	**HW PR2.0, SW 1445**
Date of Sample Receipt	**2014-11-25**
Date of Test	**2015-01-20**
Features	**2G: GSM/GPRS/EDGE 850 / 1900** **3G: WCDMA/HSPA/DC-HSDPA FDD II / IV / V** **4G: LTE-FDD 2, 4, 5, 17** (see section 5)

Applicant	**Intel Mobile Communication**
Address	**"Le Navigator" BatB** **505 route des Lucioles** **06560 Valbonne – Sophia Antipolis** **France**
Contact Person	**Wilfrid D'Angelo**
Telephone/Fax/ Email	**wilfrid.dangelo@intel.com**

Reference Standards	**FCC CFR Title 47 Part 2, 22, 24, 27** **RSS 132 issue 3, RSS 133 issue 6, RSS 139 issue 2** (see section 1)

Test Report number	**14112501.TR01**
Revision Control	**Rev. 01**

The test results relate only to the samples tested.
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1. Standards, reference documents and applicable test methods

1. FCC 47 CFR part 2 - Subpart J - EQUIPMENT AUTHORIZATION PROCEDURES
2. FCC 47 CFR part 22 - Subpart H - Cellular Radiotelephone Service
3. FCC 47 CFR part 24 – Subpart E - Broadband PCS.
4. FCC 47 CFR part 27 – Subpart L - 1695-1710, 1710-1755 MHz, 1755-1780 MHz, 2110-2155 MHz, 2155-2180 MHz, 2180-2200 MHz Bands
5. FCC OET KDB 971168 D01 v02r02 Measurement guidance for certification of licensed digital transmitters
6. RSS 132 issue 3 - Cellular Telephone Systems Operating in the Bands 824-849 MHz and 869-894 MHz
7. RSS 133 issue 6 - 2 GHz Personal Communications Services
8. RSS 139 issue 2 - Advanced Wireless Services Equipment Operating in the Bands 1710–1755 MHz and 2110–2155 MHz
9. TIA 603 - D June 2010 Land Mobile FM or PM Communications Equipment Measurement and Performance Standards
10. ANSI C63.4-2009 - American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz.

2. General conditions, competences and guarantees

- ✓ Intel Mobile Communications Wireless RF Lab (Intel WRF Lab) is a testing laboratory accredited by the American Association for Laboratory Accreditation (A2LA).
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3. Environmental Conditions

- ✓ At the site where the measurements were performed the following limits were not exceeded during the tests:

Temperature	22ºC ± 2ºC
Humidity	45% ± 2%

4. Test samples

Sample	Control #	Description	Model	Serial #	Date of reception	Note
#02	14112501.S02	Module	7262M2WW	004402523022105	2014-11-25	Used for conducted tests
	14112401.S09	Extender	NGFF Carrier board Rev 2.0	NA	2014-11-25	
#03	14112401.S03	Module	7262M2WW	004402523021818	2014-11-24	Used for radiated tests
	14112401.S07	Antenna	Pulse SPDA24700/2700	NA	2014-11-24	
	14112401.S08	Antenna	Pulse SPDA24700/2700	NA	2014-11-24	
	14112401.S06	Extender	NGFF Carrier board Rev 2.0	NA	2014-11-24	
#04		Module	7262M2WW	004402523022303		Used for subcontracted results (Frequency stability)
		Extender	NGFF Carrier board Rev 2.0	NA		

NA: Not Applicable

5. EUT features

These are the detailed bands and modes supported by the Equipment Under Test:

GSM / GPRS / EDGE	GSM 850 (824.0 – 849.0 MHz) PCS 1900 (1850.0 – 1910.0 MHz)
WCDMA / HSPA+	FDD II (1850.0 – 1910.0 MHz) FDD IV (1710.0 – 1755.0 MHz) FDD V (824.0 – 849.0 MHz)
LTE FDD	Band 2 (1850.0 – 1910.0 MHz) Band 4 (1710.0 – 1755.0 MHz) Band 5 (824.0 – 849.0 MHz) Band 17 (704.0 – 716.0 MHz)

Emission designator for IC cert

Band	Type of modulation	Emission designator
GSM850	GMSK	241KGXW
GSM850	8PSK	254KG7W
GSM1900	GMSK	243KGXW
GSM1900	8PSK	263KG7W
WCDMA Band II RMC	QPSK	4M28F9W
WCDMA Band IV RMC	QPSK	4M10F9W
WCDMA Band V RMC	QPSK	4M20F9W

6. Remarks and comments

1. The frequency stability test results, detailed in Annex C, were performed at AT4 wireless S.A., PTA – C/ Severo Ochoa 2, 29590, Málaga, SPAIN.

7. Test Verdicts summary

7.1. GSM/EDGE/GPRS

Mode	FCC part	RSS part	Test name	Verdict
PCS 1900	2.1046	-	Conducted output power	P
	24.238	-	Emission bandwidth 26dB	P
	24.232	133-ch6.4	Equivalent isotropic radiated power	P
	2.1049		Occupied bandwidth 99%	P
	24.232	133-ch6.4	Peak to average ratio	P
	24.235, 2.1055	133-ch.6.3	Frequency Stability	P
	24.238	133-ch.6.5.1	Conducted band-edge	P
	24.238	133-ch.6.5.1	Conducted spurious emission	P
	24.238	133-ch.6.5.1	Radiated spurious emission	P
GSM 850	2.1046	-	Conducted output power	P
	2.1049	-	Occupied bandwidth (99%)	P
	22.917	-	Occupied bandwidth (26dB)	P
	22.355, 2.1055	RSS-132-ch.5.3	Frequency Stability	P
	22.917, 2.1051	RSS-132-ch.5.5	Band Edge conducted emission	P
	22.917, 2.1051	RSS-132-ch.5.5	Spurious emission	P
	22.913	RSS-132-ch.5.4	Effective radiated power	P
	22.917, 2.1053	RSS.132-ch.5.5	Radiated spurious emission	P
		RSS-132-ch.5.4	Peak-to-average power ratio	P

P: Pass
F: Fail
NM: Not Measured
NA: Not Applicable

7.2. WCDMA

Mode	Band	FCC part	RSS part	Test name	Verdict
WCDMA / HSPA+ FDD	2	2.1046	-	Conducted output power	P
		24.238	-	Emission bandwidth 26dB	P
		24.232	133-ch6.4	Equivalent isotropic radiated power	P
		2.1049		Occupied bandwidth 99%	P
		24.232	133-ch6.4	Peak to average ratio	P
		24.235, 2.1055	133-ch.6.3	Frequency Stability	P
		24.238	133-ch.6.5.1	Conducted band-edge	P
		24.238	133-ch.6.5.1	Conducted spurious emission	P
		24.238	133-ch.6.5.1	Radiated spurious emission	P
WCDMA / HSPA+ FDD	4	2.1046	-	Conducted output power	P
		27.53	139-ch2.3	Emission bandwidth 26dB	P
		27.50	139-ch.6.4	Equivalent isotropic radiated power	P
		2.1049		Occupied bandwidth 99%	P
			139-ch.6.4	Peak to average ratio	P
		27.54, 2.1055	139-ch.6.3	Frequency Stability	P
		27.53, 2.1051	139-ch.6.5	Conducted band-edge	P
		27.53	139-ch.6.5,	Conducted spurious emission	P
		27.53, 2.1053	139-ch.6.5	Radiated spurious emission	P
WCDMA / HSPA+ FDD	5	2.1046	-	Conducted output power	P
		2.1049	-	Occupied bandwidth (99%)	P
		22.917	-	Occupied bandwidth (26dB)	P
		22.355, 2.1055	RSS-132-ch.5.3	Frequency Stability	P
		22.917, 2.1051	RSS-132-ch.5.5	Band Edge conducted emission	P
		22.917, 2.1051	RSS-132-ch.5.5	Spurious emission	P
		22.913	RSS-132-ch.5.4	Effective radiated power	P
		22.917, 2.1053	RSS.132-ch.5.5	Radiated spurious emission	P
			RSS-132-ch.5.4	Peak-to-average power ratio	P
		2.1046	RSS-132-ch.5.3	Conducted output power	P

P: Pass
F: Fail
NM: Not Measured
NA: Not Applicable

8. Document Revision History

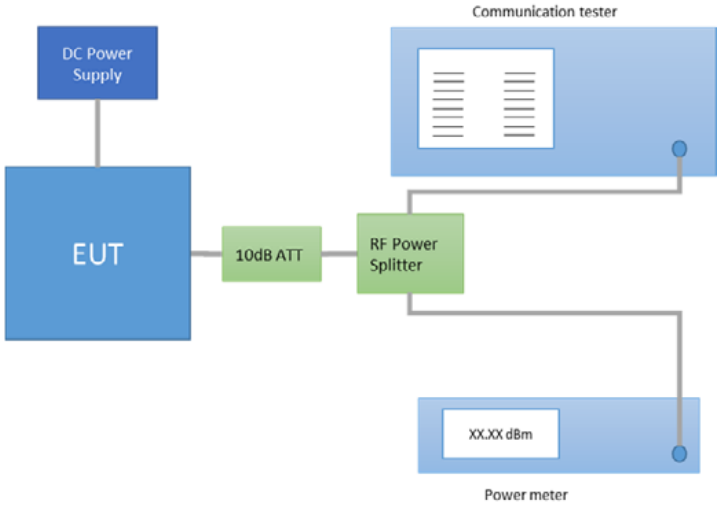
Revision #	Date	Modified by	Details
Rev. 01	2015-02-25	O. Fargant	• Highlight of max and min values of Conducted Output Power according to TCB comments. • Highlight of max values of Occupied Bandwidth according to TCB comments. • Typos correction
Rev. 00	2015-02-17	O. Fargant	First Issue

Annex A. Test & System Description

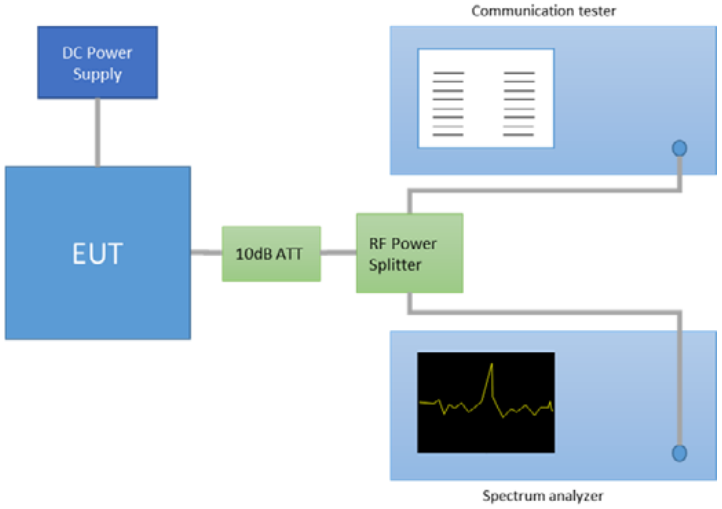
A.1 Measurement system

Measurements were performed using the following setups. A communication tester was used to establish a communication link with the EUT, and the communication tester parameters were set to get the maximum output power from the EUT.

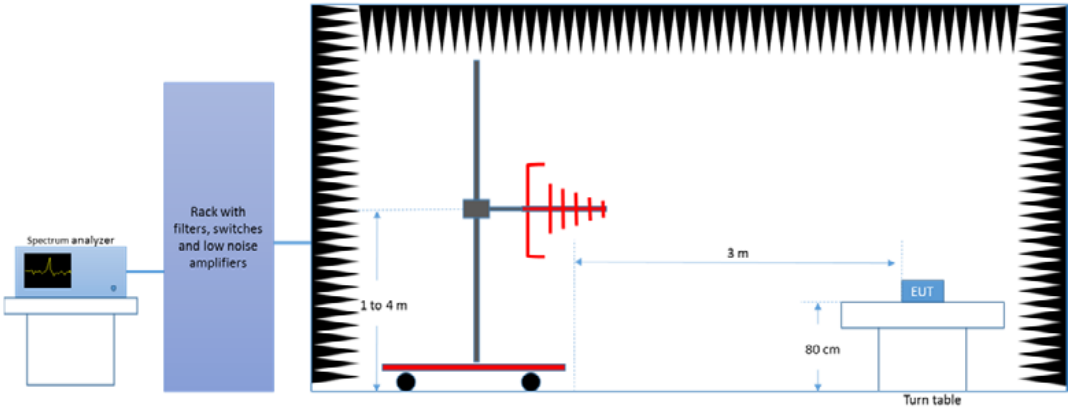
Conducted Setup 1



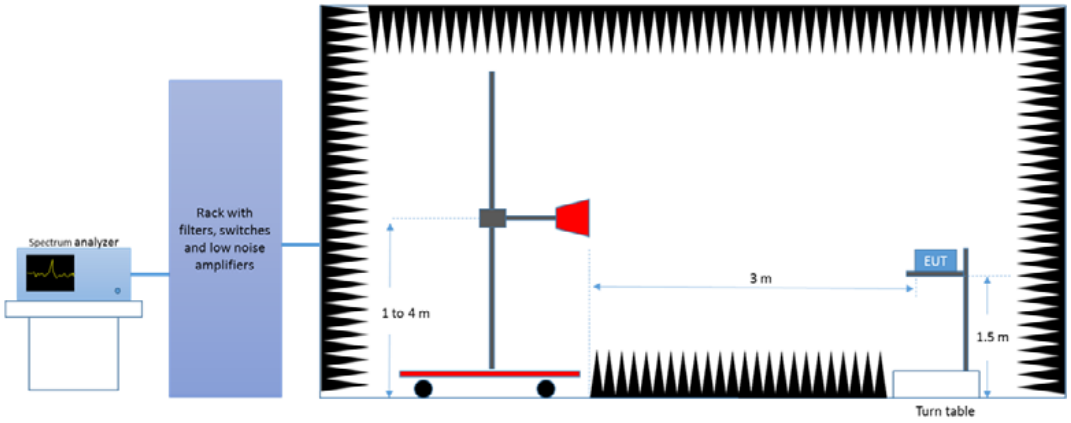
Conducted Setup 2



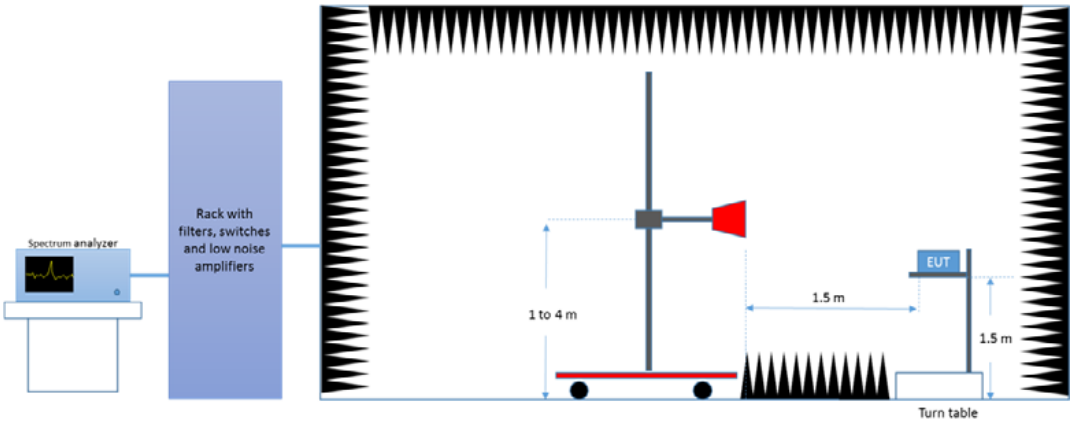
Radiated Setup < 1GHz



Radiated Setup Frequency range 1 GHz to 18 GHz



Radiated Setup > 18GHz



A.2 Test Equipment List

Conducted Setup

ID Number	Device	Type/Model	Serial Number	Manufacturer	Calibration Date	Calibration Due Date
0100	Communication tester	CMW500	129337	Rohde & Schwarz	2013-11-07	2015-11-07
0033	Spectrum analyzer	FSV40	101072	Rohde & Schwarz	2014-01-30	2016-01-30
0046	Power splitter	11667B	MY51360447	Agilent	NA	NA
0098	USB Power sensor	NRP-Z81	102278	Rohde & Schwarz	2013-07-17	2015-07-17
NA	10 dB attenuator	NA	4882640	RS	NA	NA

Radiated Setup

ID Number	Device	Type/Model	Serial Number	Manufacturer	Calibration Date	Calibration Due Date
0210	Communication tester	CMW500	147712	Rohde & Schwarz	NA	NA
0133	Spectrum analyzer	FSV40	101358	Rohde & Schwarz	2014-05-03	2016-05-03
0137	Log Antenna 30 MHz – 1 GHz	3142E	00156946	ETS Lindgren	2014-05-03	2016-05-03
0138	Horn Antenna 1 GHz – 18 GHz	3117	00152266	ETS Lindgren	2014-03-04	2016-03-04
0141	Horn Antenna + Preamplifier 1 GHz – 18 GHz	3117P	00157736	ETS Lindgren	2014-06-03	2016-06-03
0139	Horn Antenna 18 GHz – 26 GHz	114514	00167100	ETS Lindgren	2014-04-25	2016-04-25
0135	Anechoic chamber	Fact 3	RFD_FA_100	ETS Lindgren	NA	NA

A.3 Measurement Uncertainty Evaluation

The system uncertainty evaluation is shown in the below table:

Measurement type	Uncertainty [±dB]
Conducted Power (power meter)	± 1.0
Conducted spurious emission	± 2.9
Radiated test < 1GHz	± 3.8
Radiated test 1GHz - 26 GHz	± 4.7

Annex B. Test Results

B.1 Test Conditions

For cellular transmission modes GPRS/EGPRS/WCDMA, the device was put into operation by using an R&S CMW 500 as base station simulator.

The output power of the device was set to transmit at maximum power for all tests.

B.2 Test results

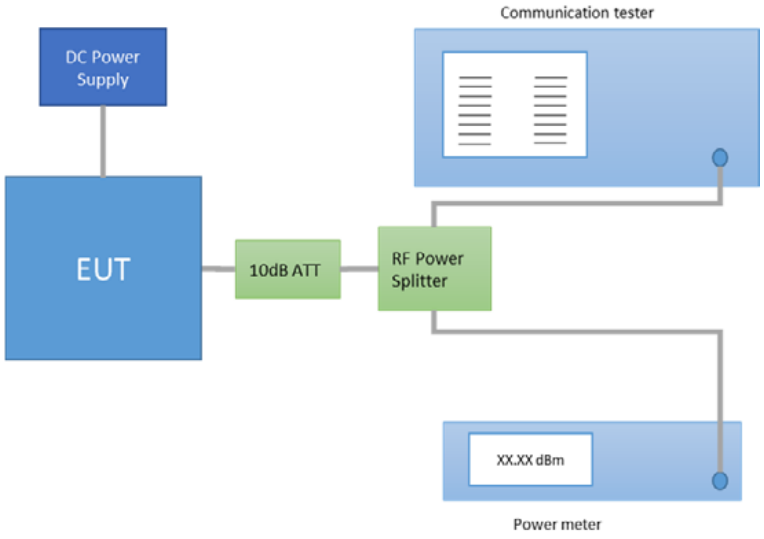
B.2.1 Conducted RF output power

Test limits

BAND	FCC part	RSS part	Power Limits [Watts]	Max Antenna Gain [dBi]	Power Limit at antenna terminal [dBm]
PCS 1900, WCDMA 2	2.1046, 24.232	133-ch6.4	< 2 watts EIRP	2.0	< 31.0
WCDMA 4	2.1046, 27.50	139-ch.6.4, 199 ch.4.4	< 3 watts ERP	2.0	< 34.9
GSM 850, WCDMA 5	2.1046, 22.913	132-ch.5.4	ERP max 7 watts	2.0	< 38.6

Test procedure

The setup below was used to measure the conducted output power. The antenna terminal of the EUT is connected to the power meter and the communication tester through an attenuator and a power splitter. The power meter reading is compensated to include the RF. This test was performed according to the KDB 971168 D01 § 5.2.



Results tables

Band	Channel	Channel Number	Frequency [MHz]	Mode	#UL Slots	Level [dBm]
GSM850	Low	128	824.2	GPRS GMSK	1	32.55
					2	32.45
					3	31.77
					4	30.11
				EDGE 8PSK	1	26.39
					2	27.02
					3	26.22
					4	**24.95**
	Mid	190	836.6	GPRS GMSK	1	**32.60**
					2	31.77
					3	31.21
					4	30.12
				EDGE 8PSK	1	26.98
					2	27.04
					3	26.36
					4	25.34
	High	251	848.8	GPRS GMSK	1	32.57
					2	31.68
					3	31.19
					4	**29.99**
				EDGE 8PSK	1	27.03
					2	**27.07**
					3	26.28
					4	25.20

Max values
Min values

Band	Channel	Channel Number	Frequency [MHz]	Mode	#UL Slots	Level [dBm]
GSM1900	Low	512	1850.2	GPRS GMSK	1	**29.59**
					2	29.57
					3	29.06
					4	28.01
				EDGE 8PSK	1	25.98
					2	**26.72**
					3	25.88
					4	24.75
	Mid	661	1880	GPRS GMSK	1	29.34
					2	29.30
					3	28.84
					4	**27.80**
				EDGE 8PSK	1	25.75
					2	26.55
					3	25.72
					4	24.50
	High	810	1909.8	GPRS GMSK	1	29.37
					2	29.20
					3	28.83
					4	27.95
				EDGE 8PSK	1	25.75
					2	26.42
					3	25.63
					4	**24.45**

Max values
Min values

Band	Mode	Subtest	Channel Number	Freq [MHz]	Avg [dBm]	Peak [dBm]
WCDMA Band II	RMC	-	9262	1852.4	**24.01**	26.60
			9400	1880.0	23.86	26.66
			9538	1907.6	23.87	25.69
	HSDPA	1	9262	1852.4	23.98	26.63
			9400	1880.0	23.85	26.75
			9538	1907.6	23.85	25.69
		2	9262	1852.4	23.58	26.88
			9400	1880.0	23.37	26.83
			9538	1907.6	23.47	25.86
		3	9262	1852.4	23.04	26.86
			9400	1880.0	22.78	26.74
			9538	1907.6	22.87	25.71
		4	9262	1852.4	22.82	26.72
			9400	1880.0	22.61	26.73
			9538	1907.6	22.63	25.66
	HSUPA	1	9262	1852.4	23.14	26.77
			9400	1880.0	22.98	27.01
			9538	1907.6	22.97	25.82
		2	9262	1852.4	21.30	26.66
			9400	1880.0	21.18	26.71
			9538	1907.6	**21.17**	25.63
		3	9262	1852.4	22.30	27.13
			9400	1880.0	22.16	27.06
			9538	1907.6	22.12	26.02
		4	9262	1852.4	21.48	25.96
			9400	1880.0	21.41	25.07
			9538	1907.6	21.44	24.67
		5	9262	1852.4	23.59	27.13
			9400	1880.0	23.44	27.11
			9538	1907.6	23.45	26.03

Max values
Min values

Band	Mode	Subtest	Channel Number	Freq [MHz]	Avg [dBm]	Peak [dBm]
WCDMA Band IV	RMC	-	1312	1712.4	23.59	26.73
			1413	1732.6	**23.96**	26.92
			1513	1752.6	23.85	26.46
	HSDPA	1	1312	1712.4	23.57	26.78
			1413	1732.6	23.89	26.87
			1513	1752.6	23.88	26.47
		2	1312	1712.4	23.01	26.97
			1413	1732.6	23.36	27.11
			1513	1752.6	23.33	26.67
		3	1312	1712.4	22.44	26.74
			1413	1732.6	22.78	26.90
			1513	1752.6	22.81	26.54
		4	1312	1712.4	22.30	26.54
			1413	1732.6	22.55	26.69
			1513	1752.6	22.57	26.29
	HSUPA	1	1312	1712.4	21.65	26.22
			1413	1732.6	22.98	27.41
			1513	1752.6	22.84	26.80
		2	1312	1712.4	20.86	26.74
			1413	1732.6	21.15	27.88
			1513	1752.6	21.13	27.18
		3	1312	1712.4	21.83	27.25
			1413	1732.6	22.17	28.49
			1513	1752.6	22.08	27.87
		4	1312	1712.4	**20.05**	24.93
			1413	1732.6	21.38	26.11
			1513	1752.6	21.36	25.76
		5	1312	1712.4	23.05	28.34
			1413	1732.6	23.43	28.54
			1513	1752.6	23.35	28.04

Max values
Min values

Band	Mode	Subtest	Channel Number	Freq [MHz]	Avg [dBm]	Peak [dBm]
WCDMA Band V	RMC	-	4132	826.4	23.66	26.15
			4183	836.6	**23.67**	25.40
			4233	846.6	23.48	25.22
	HSDPA	1	4132	826.4	23.62	26.39
			4183	836.6	23.66	25.73
			4233	846.6	23.45	25.46
		2	4132	826.4	23.14	27.04
			4183	836.6	23.17	26.51
			4233	846.6	22.98	26.21
		3	4132	826.4	22.59	26.97
			4183	836.6	22.70	26.45
			4233	846.6	22.42	26.18
		4	4132	826.4	22.35	26.66
			4183	836.6	22.45	26.24
			4233	846.6	22.21	25.94
	HSUPA	1	4132	826.4	22.64	26.91
			4183	836.6	22.72	26.21
			4233	846.6	22.54	25.71
		2	4132	826.4	21.69	28.00
			4183	836.6	20.74	26.36
			4233	846.6	**20.63**	25.99
		3	4132	826.4	21.78	28.21
			4183	836.6	21.82	26.46
			4233	846.6	21.66	25.93
		4	4132	826.4	20.99	25.51
			4183	836.6	21.04	24.77
			4233	846.6	20.86	23.71
		5	4132	826.4	23.12	28.43
			4183	836.6	23.19	26.64
			4233	846.6	23.01	26.22

Max values
Min values

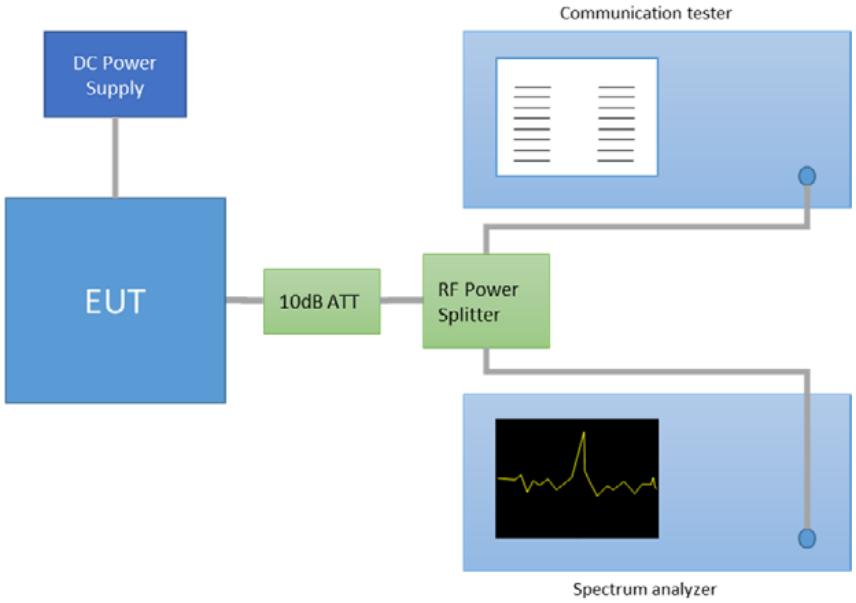
B.2.2 Occupied bandwidth

Standard references

BAND	FCC part	RSS part
PCS 1900, WCDMA 2	2.1049, 24.238	133-ch6.4
WCDMA 4	2.1049, 27.53	139-ch.2.3, 199-ch.4.2
GSM 850, WCDMA 5	2.1049, 22.917	132-ch.5.4

Test procedure

The setup below was used to measure the transmitted occupied bandwidth. The antenna terminal of the EUT is connected to the spectrum analyzer and the communication tester through an attenuator and a power splitter. This test was performed according to the KDB 971168 D01 § 4.
The occupied bandwidth was measured on the worst case configuration selected from the chapter B.2.1 and on the low, middle and high channel.



Results tables

Band	Mode	Channel Number	Freq [MHz]	OBW [MHz]	EBW [MHz]
GSM850	GPRS GMSK	128	824.2	0.239	0.316
		190	836.6	0.237	0.316
		251	848.8	**0.241**	0.316
	EDGE 8PSK	128	824.2	0.252	0.313
		190	836.6	**0.254**	0.313
		251	848.8	0.250	0.311
GSM1900	GPRS GMSK	512	1850.2	0.243	0.312
		661	1880	**0.244**	0.318
		810	1909.8	0.240	0.315
	EDGE 8PSK	512	1850.2	0.261	0.334
		661	1880	**0.263**	0.328
		810	1909.8	0.261	0.340

Band	Mode	Channel Number	Freq [MHz]	OBW [MHz]	EBW [MHz]
WCDMA Band II	RMC	9262	1852.4	4.12	4.73
		9400	1880.0	4.08	4.68
		9538	1907.6	**4.28**	5.18
	HSDPA	9262	1852.4	4.10	4.71
		9400	1880.0	4.09	4.66
		9538	1907.6	4.23	5.02
	HSUPA	9262	1852.4	4.13	4.73
		9400	1880.0	4.10	4.72
		9538	1907.6	4.24	5.51
WCDMA Band IV	RMC	1312	1712.4	4.09	4.65
		1413	1732.6	4.07	4.66
		1513	1752.6	4.10	4.71
	HSDPA	1312	1712.4	4.08	4.65
		1413	1732.6	4.09	4.65
		1513	1752.6	4.10	4.69
	HSUPA	1312	1712.4	4.09	4.65
		1413	1732.6	4.10	4.65
		1513	1752.6	**4.11**	4.74
WCDMA Band V	RMC	4132	826.4	4.09	4.69
		4183	836.6	4.20	4.88
		4233	846.6	**4.30**	5.29
	HSDPA	4132	826.4	4.07	4.67
		4183	836.6	4.13	4.85
		4233	846.6	4.16	4.85
	HSUPA	4132	826.4	4.07	4.64
		4183	836.6	4.10	4.67
		4233	846.6	4.11	4.68

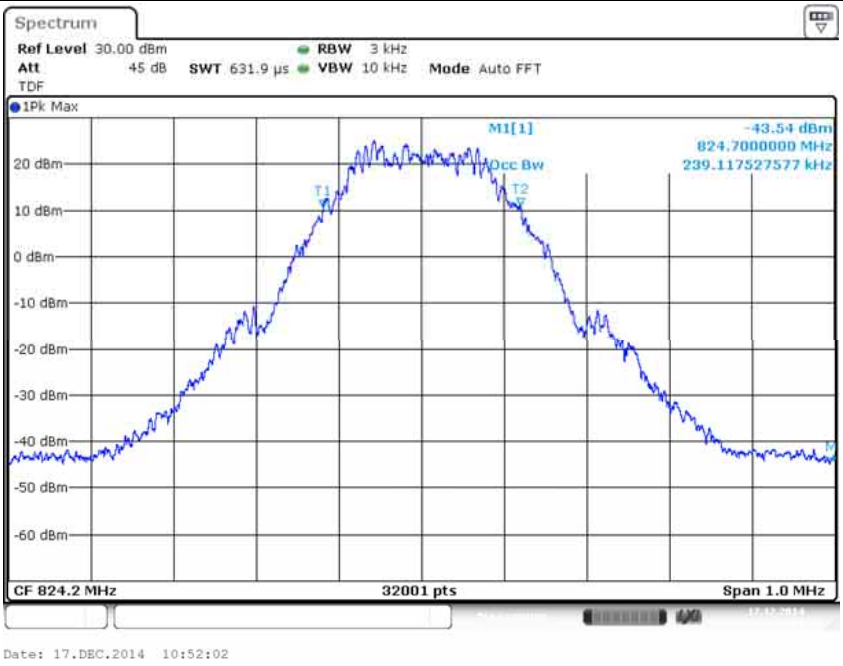
Max values

Results screenshot

GSM 850

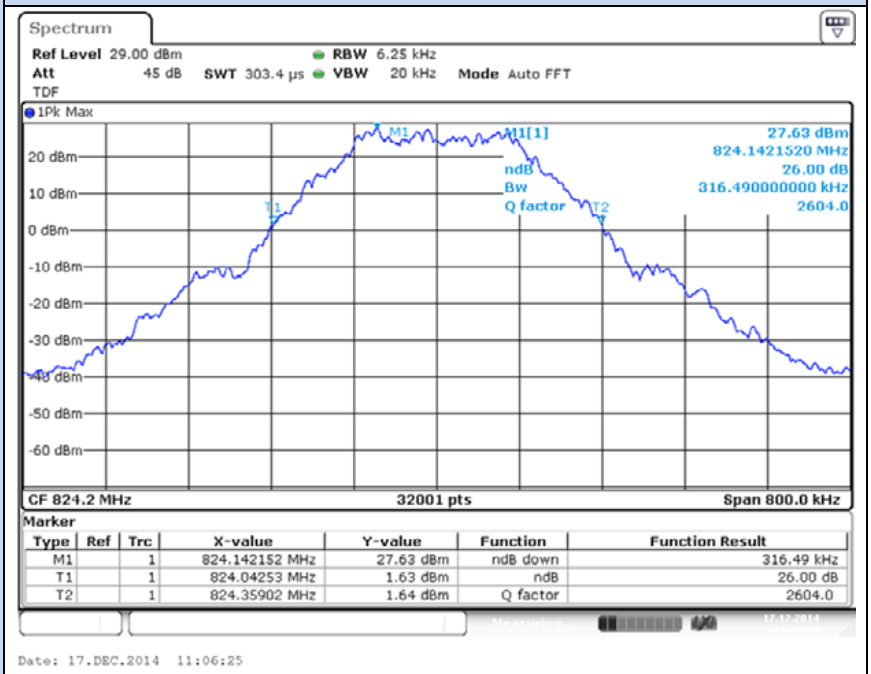
Occupied bandwidth 99%

GSM850 GPRS GMSK Low channel 128



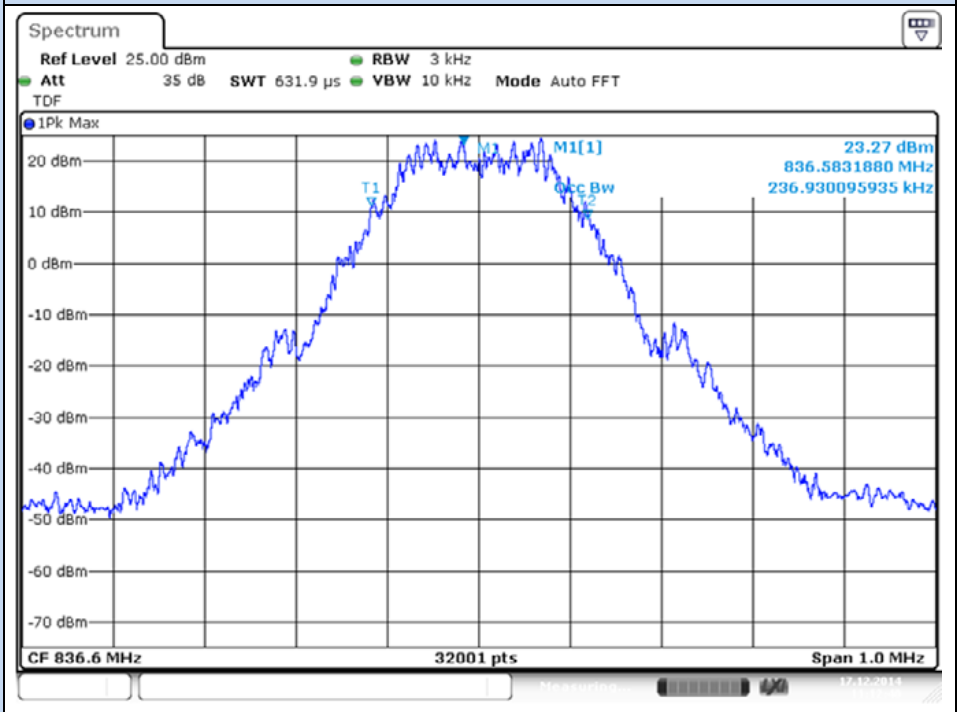
Emission bandwidth -26dB

GSM850 GPRS GMSK Low channel 128



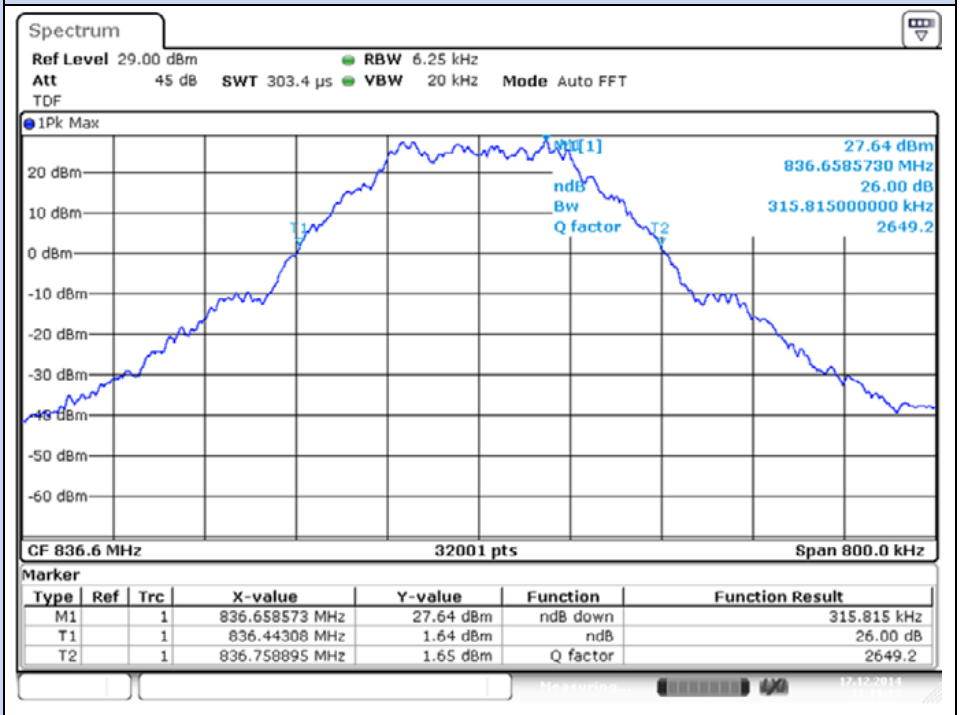
Occupied bandwidth 99%

GSM850 GPRS GMSK Mid channel 190

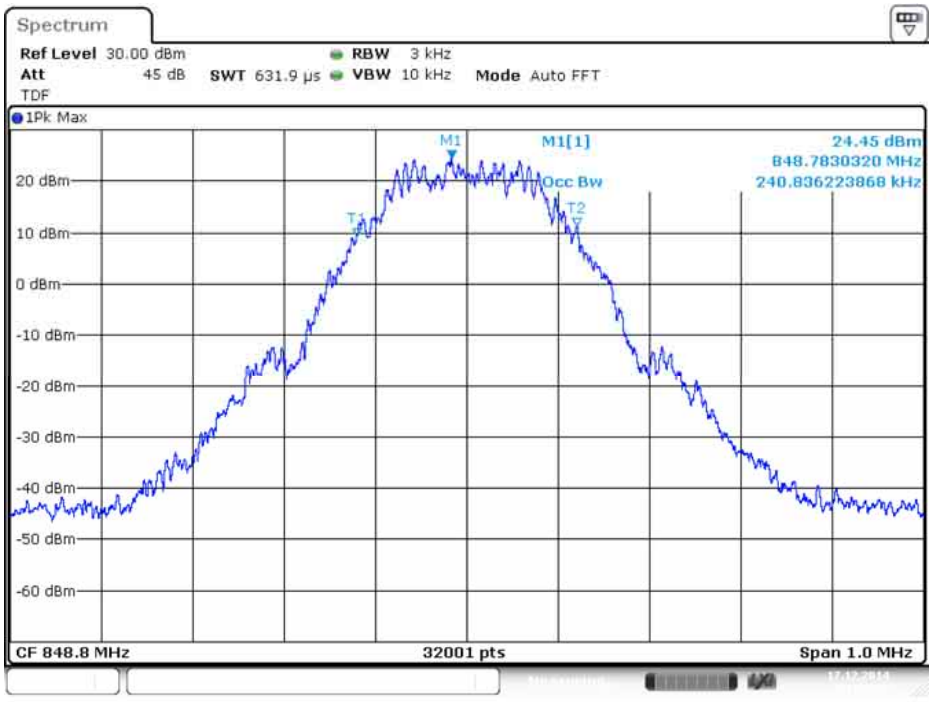


Emission bandwidth -26dB

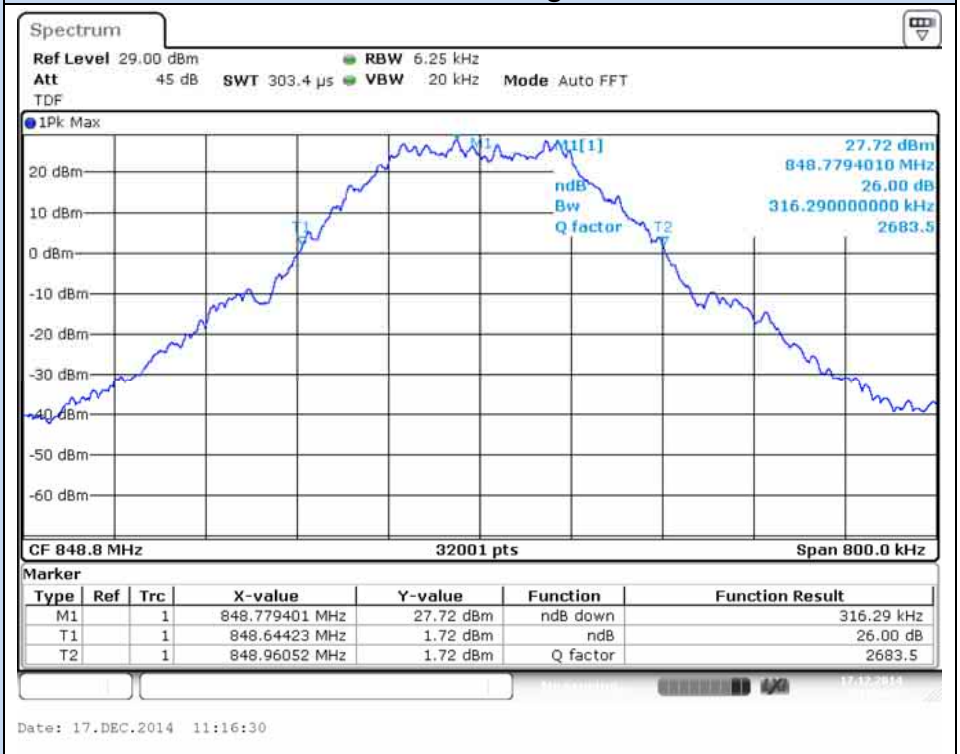
GSM850 GPRS GMSK Mid channel 190



Occupied bandwidth 99%	**GSM850 GPRS GMSK High channel 251**

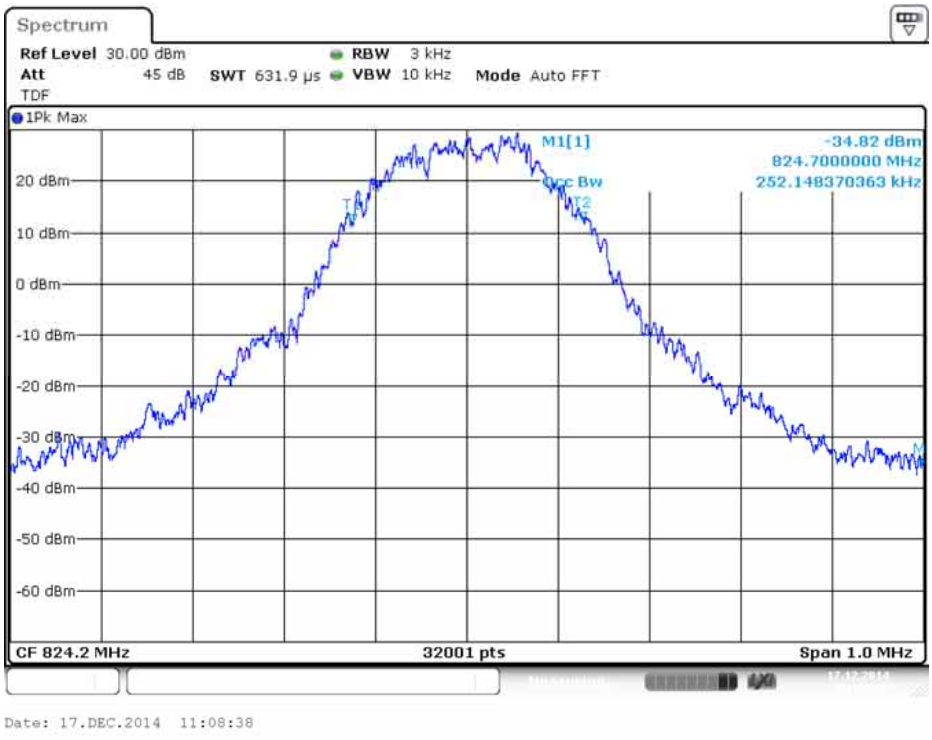


Emission bandwidth -26dB	**GSM850 GPRS GMSK High channel 251**



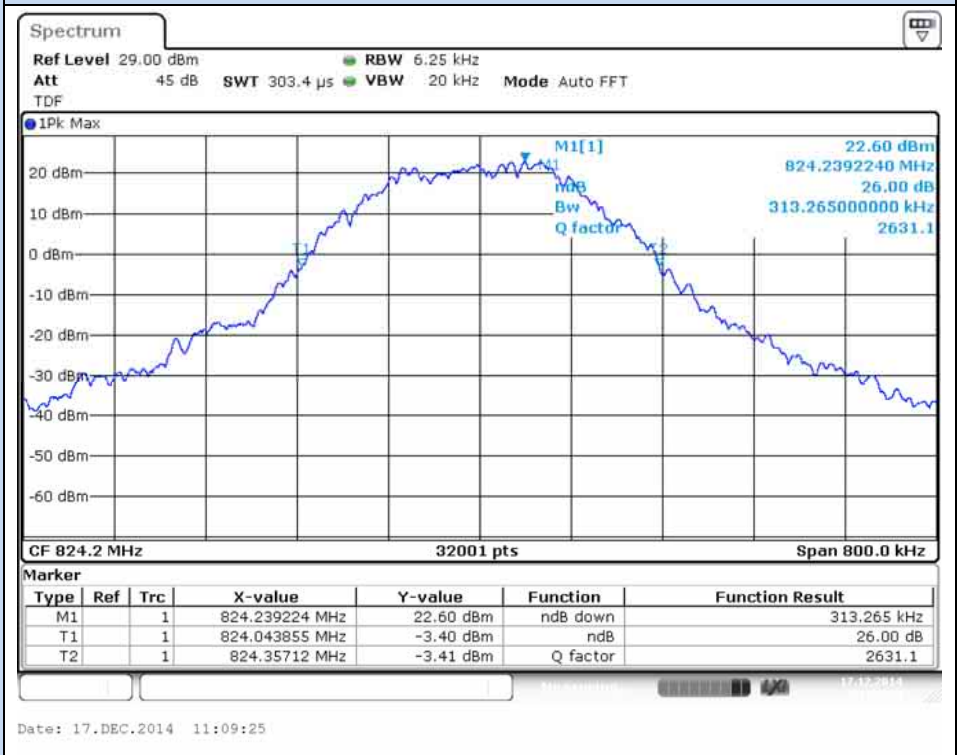
Occupied bandwidth 99%

GSM850 EDGE 8PSK Low channel 128



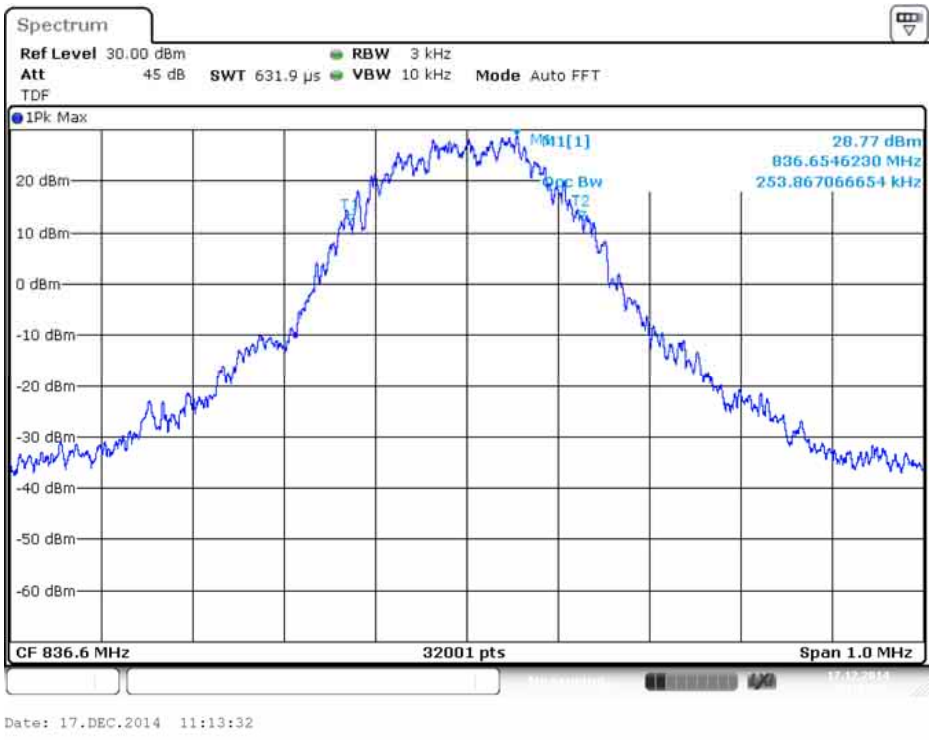
Emission bandwidth -26dB

GSM850 EDGE 8PSK Low channel 128



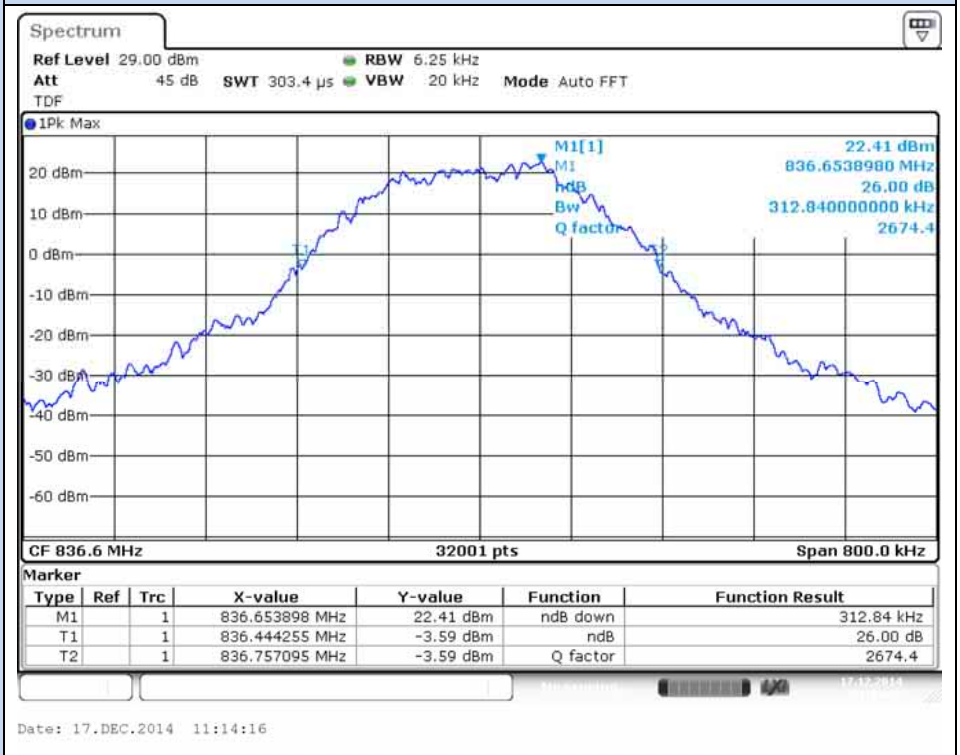
Occupied bandwidth 99%

GSM850 EDGE 8PSK Mid channel 190

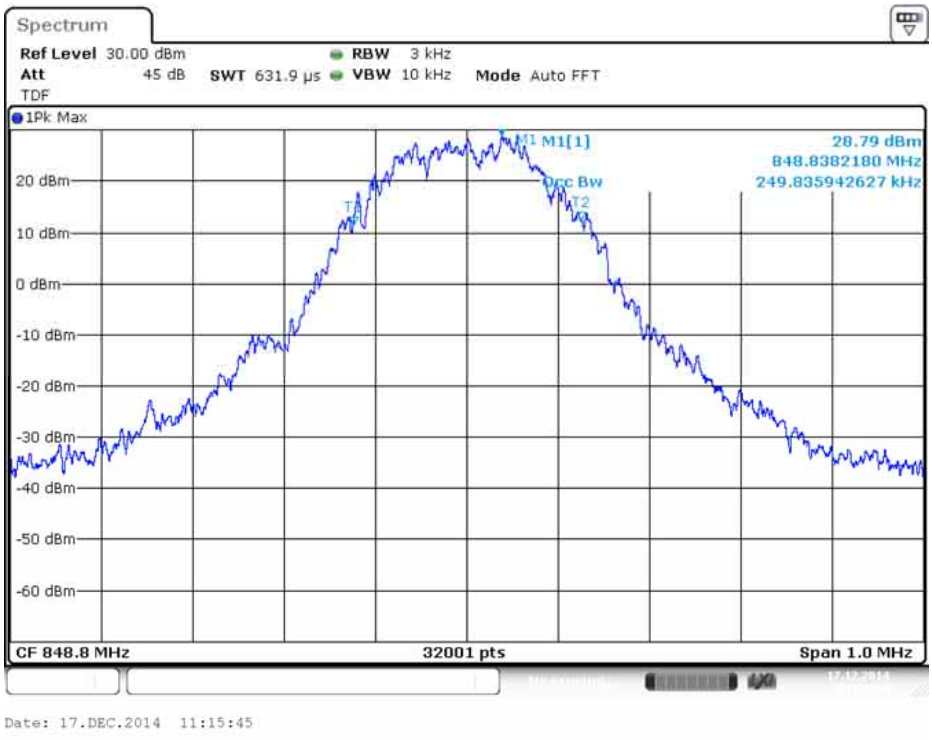


Emission bandwidth -26dB

GSM850 EDGE 8PSK Mid channel 190



Occupied bandwidth 99%	**GSM850 EDGE 8PSK High channel 251**

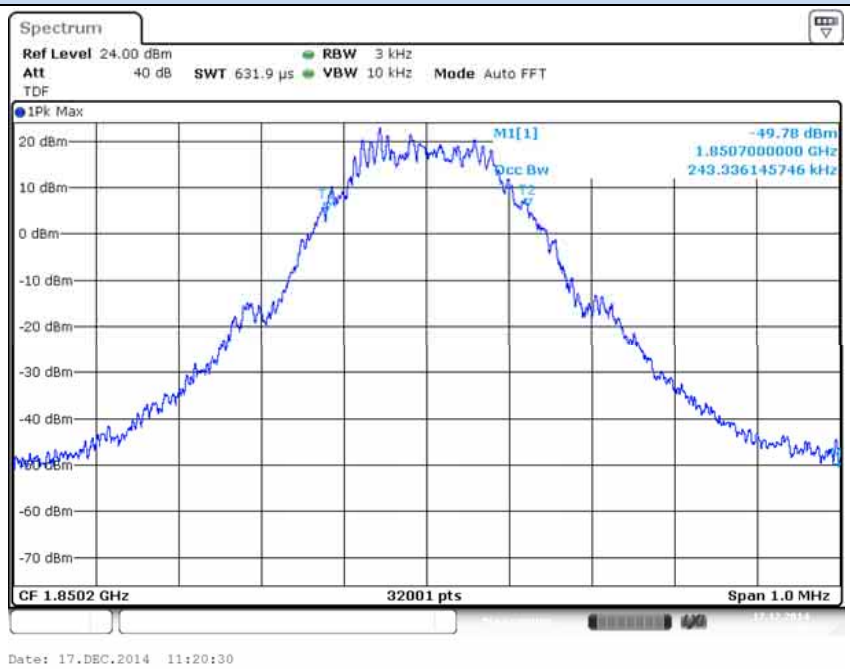


Emission bandwidth -26dB	**GSM850 EDGE 8PSK High channel 251**

GSM 1900

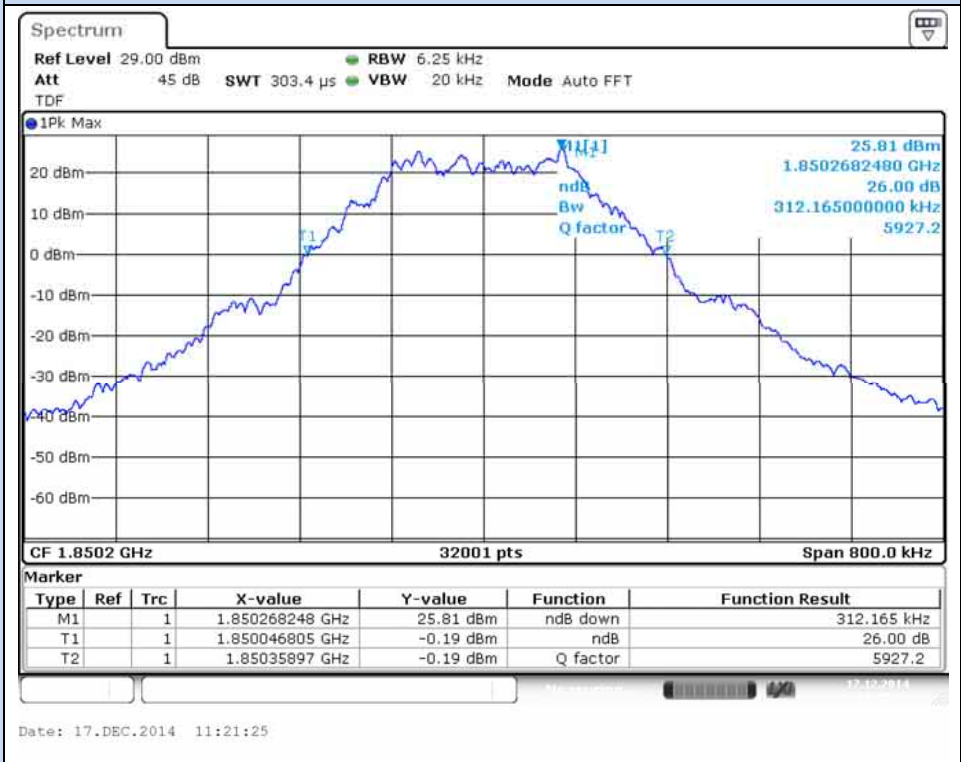
Occupied bandwidth 99%

GSM1900 GPRS GMSK Low channel 512

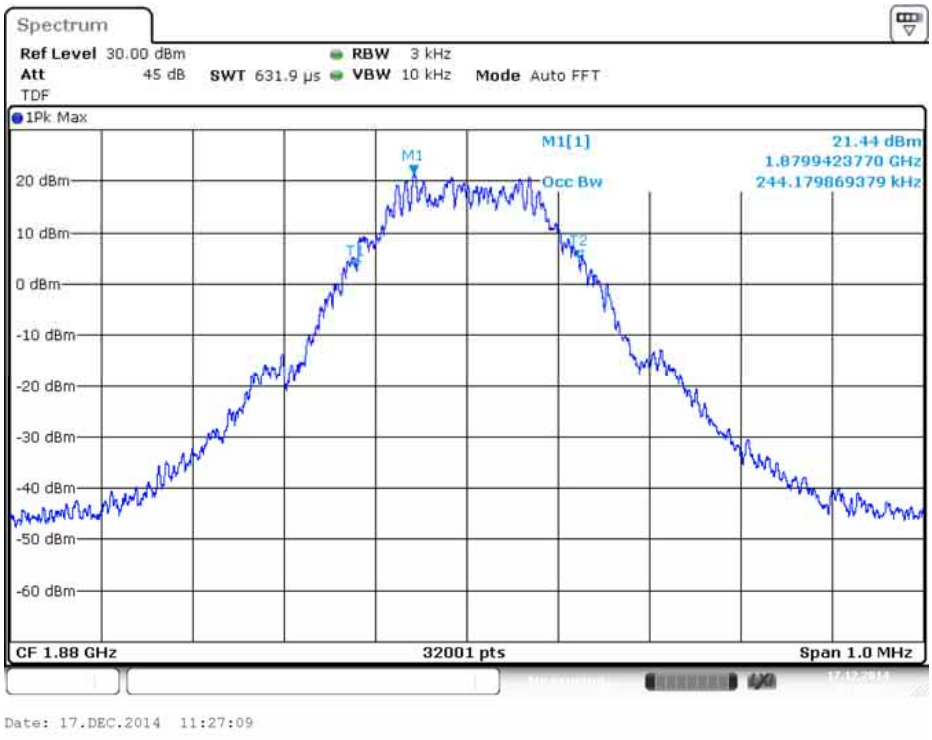


Emission bandwidth -26dB

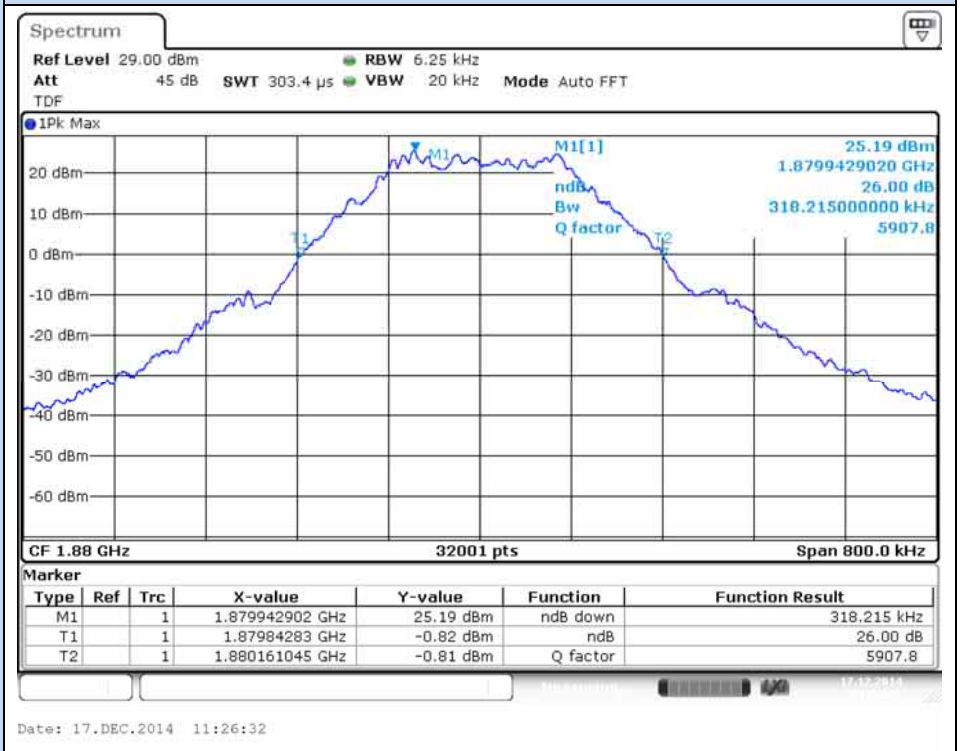
GSM1900 GPRS GMSK Low channel 512



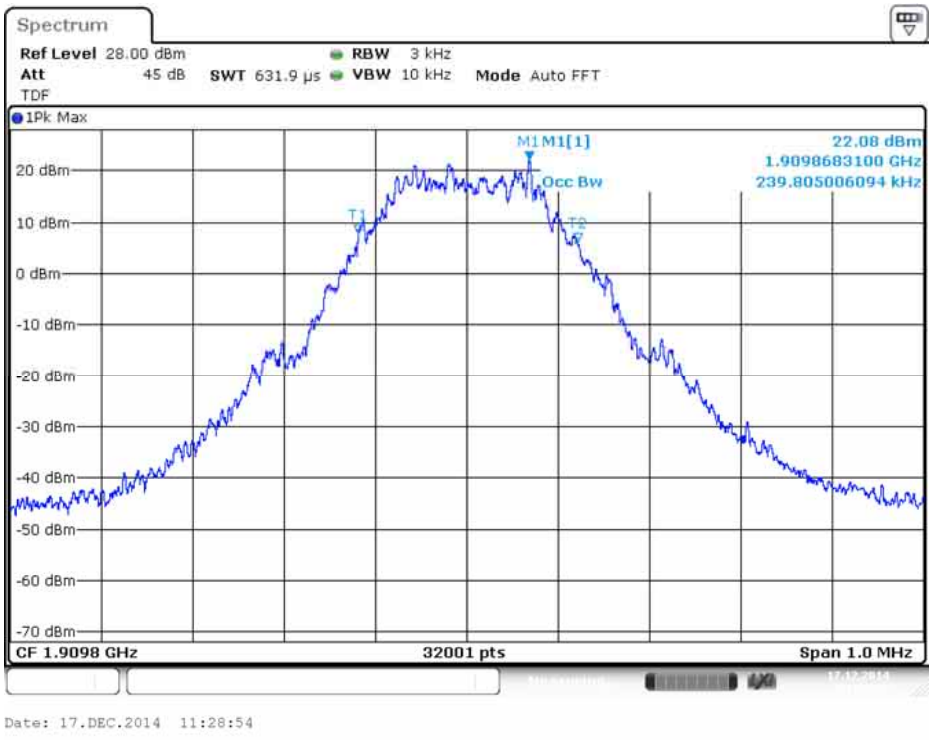
Occupied bandwidth 99%	**GSM1900 GPRS GMSK Mid channel 661**



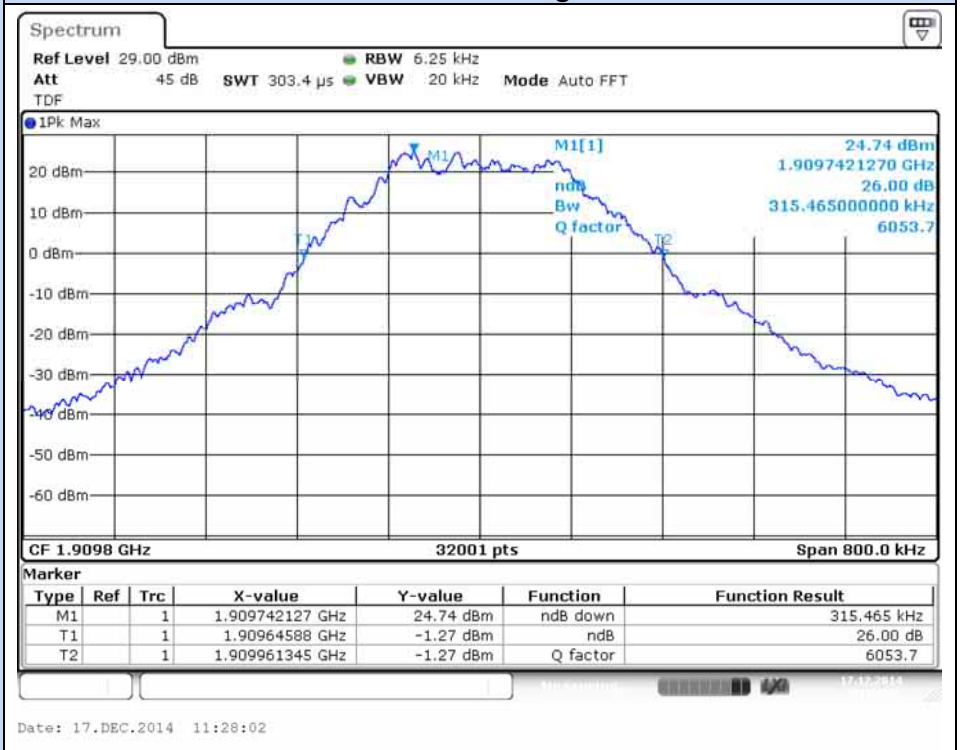
Emission bandwidth -26dB	**GSM1900 GPRS GMSK Mid channel 661**



Occupied bandwidth 99%	**GSM1900 GPRS GMSK High channel 810**

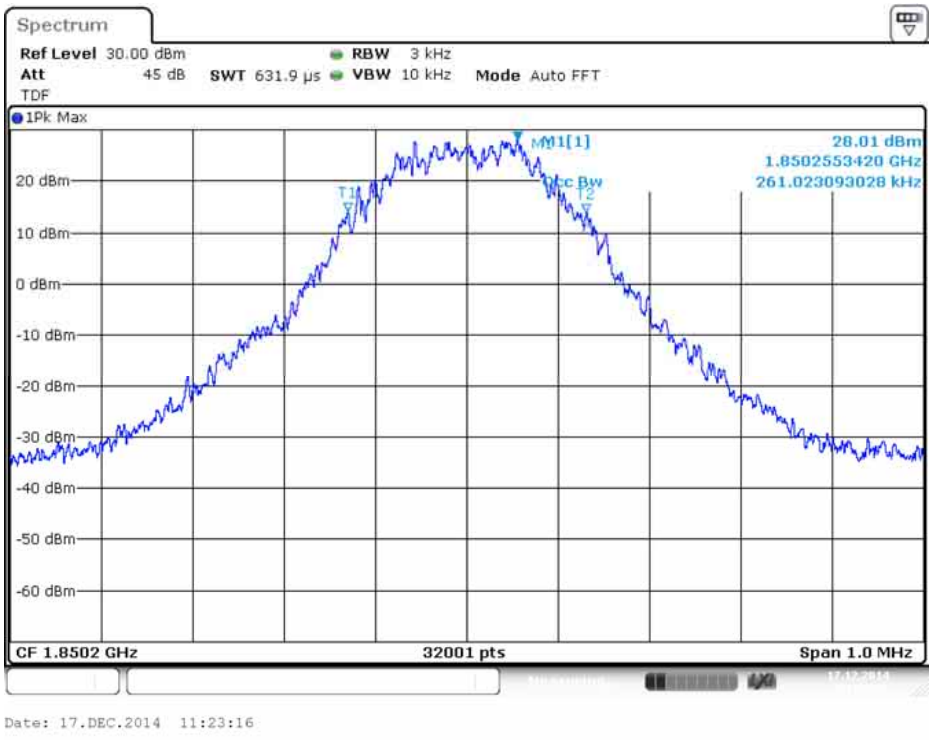


Emission bandwidth -26dB	**GSM1900 GPRS GMSK High channel 810**



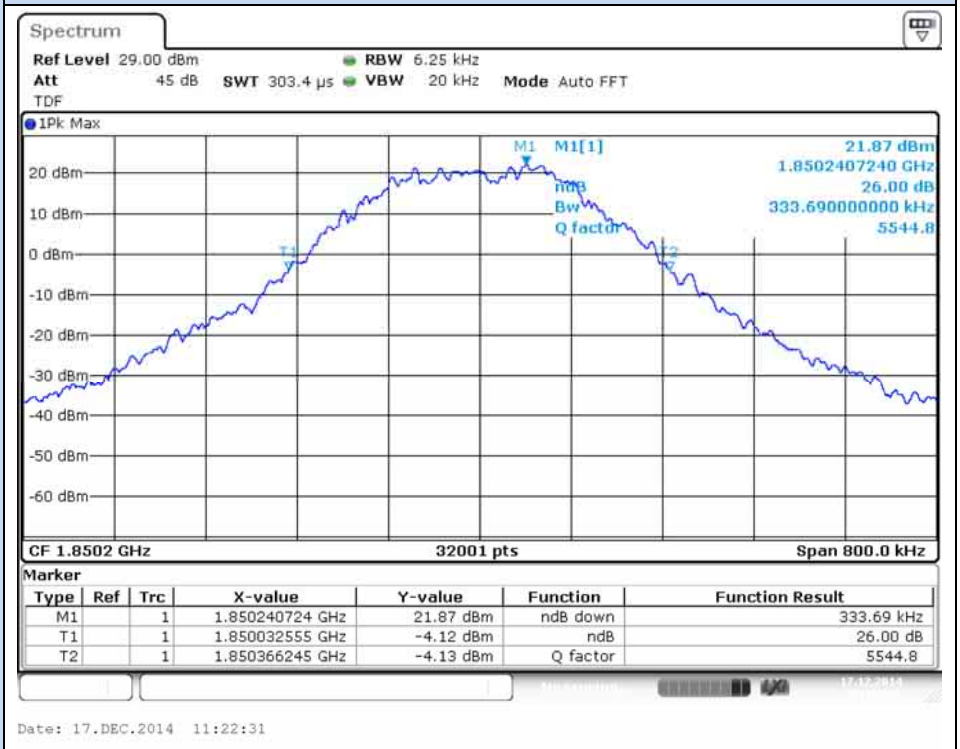
Occupied bandwidth 99%

GSM1900 EDGE 8PSK Low channel 512



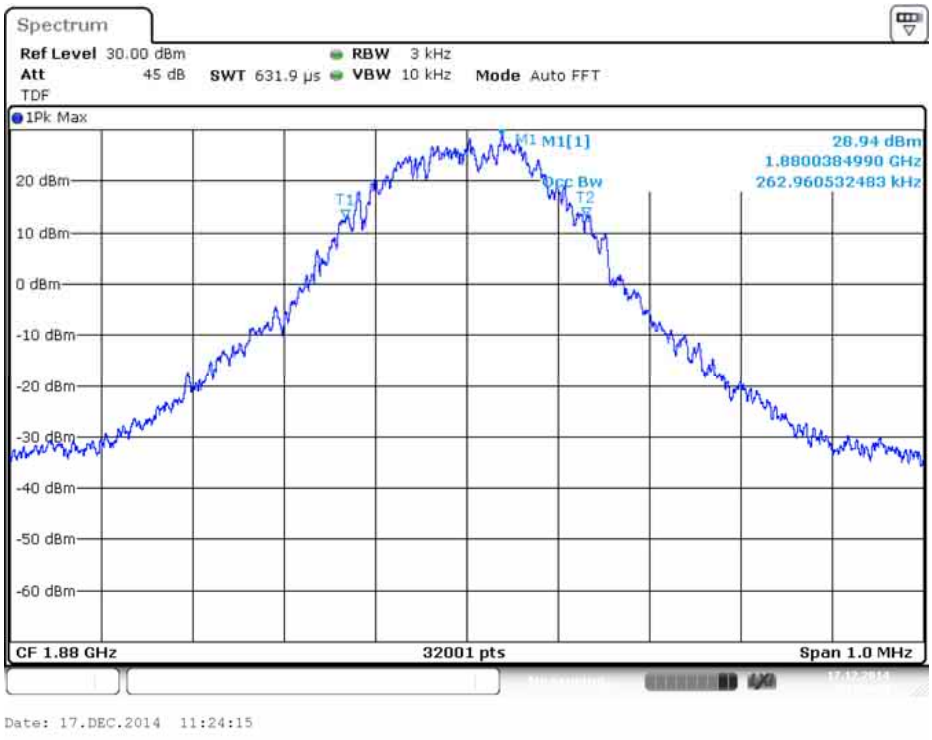
Emission bandwidth -26dB

GSM1900 EDGE 8PSK Low channel 512



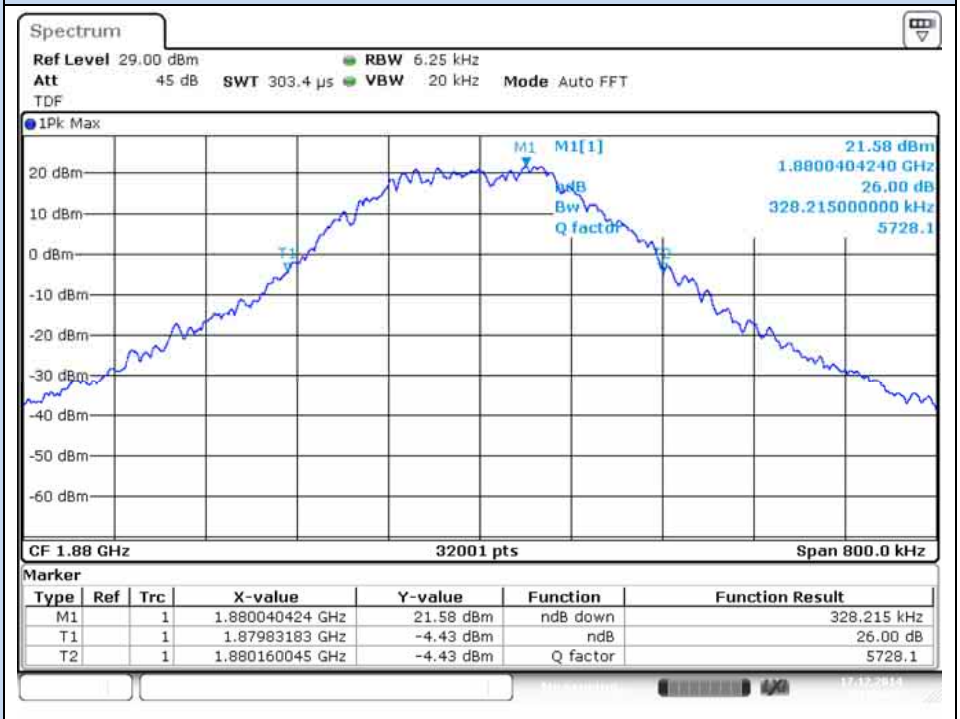
Occupied bandwidth 99%

GSM1900 EDGE 8PSK Mid channel 661



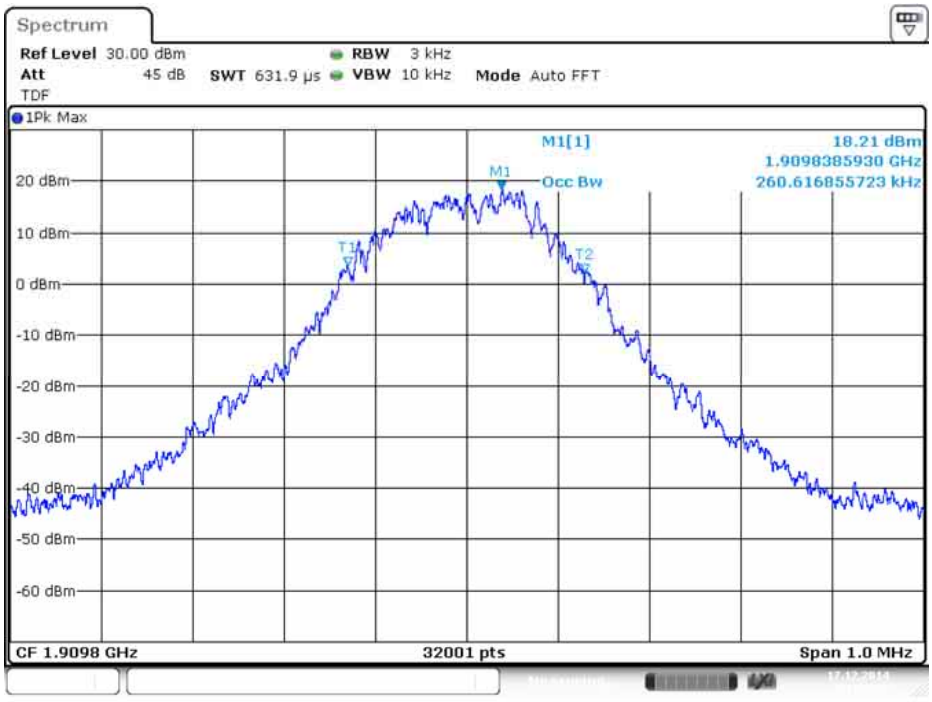
Emission bandwidth -26dB

GSM1900 EDGE 8PSK Mid channel 661



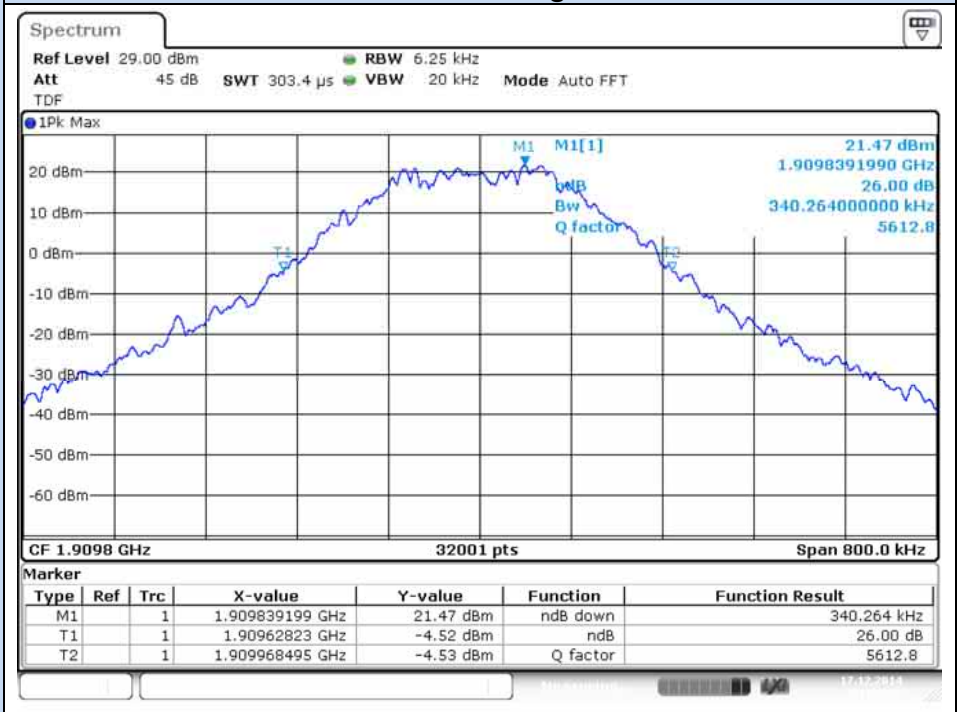
Occupied bandwidth 99%

GSM1900 EDGE 8PSK High channel 810



Emission bandwidth -26dB

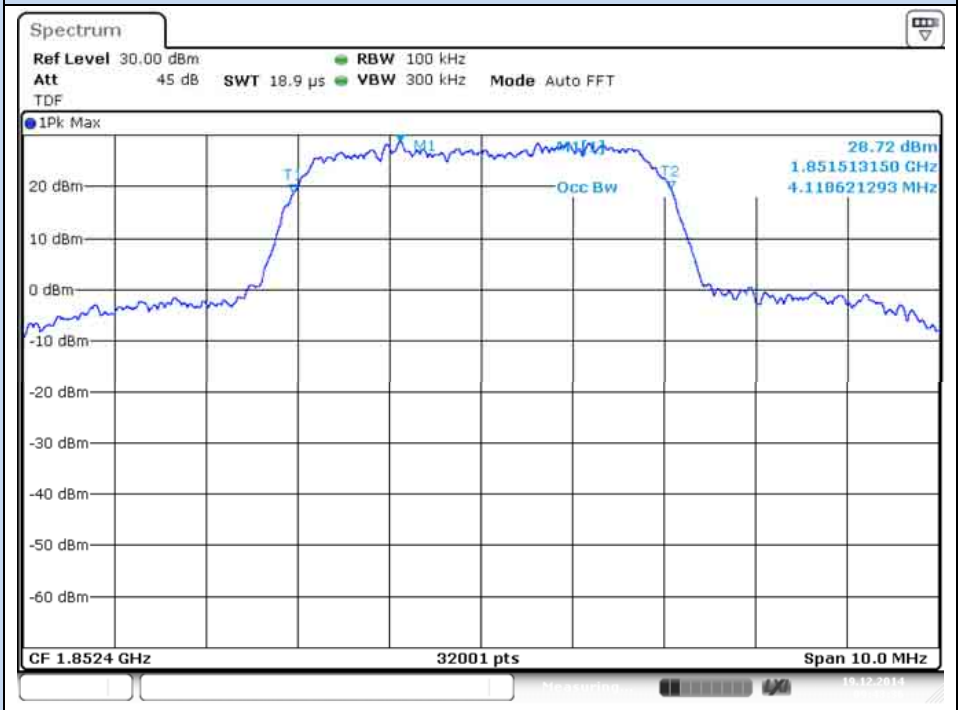
GSM1900 EDGE 8PSK High channel 810



WCDMA Band II

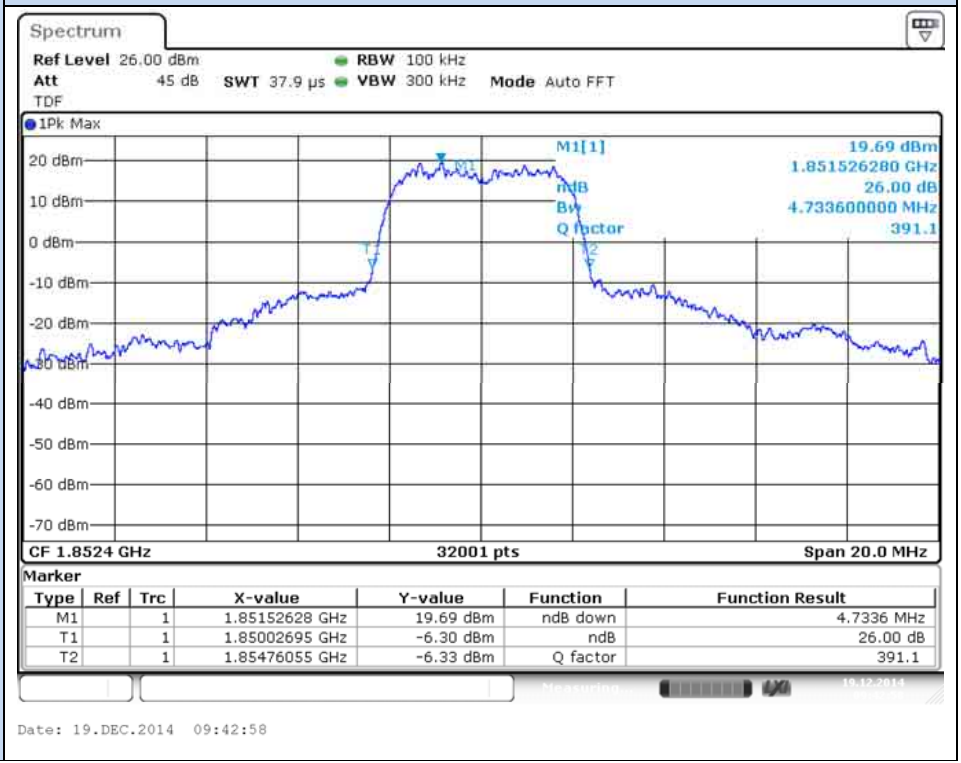
Occupied bandwidth 99%

WCDMA Band II RMC Low channel 9262

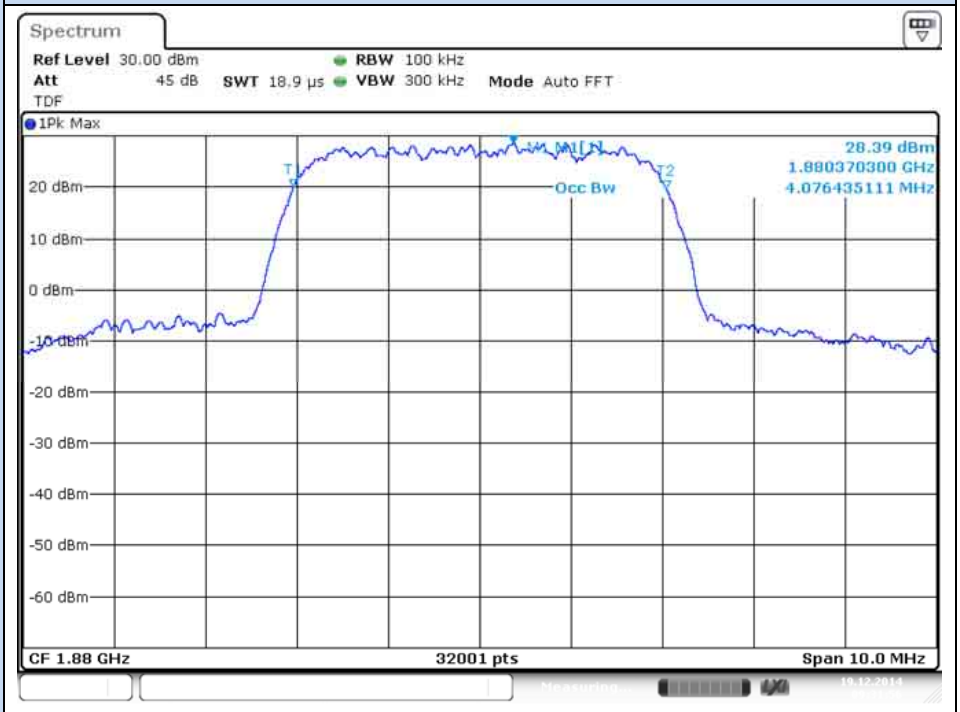


Emission bandwidth -26dB

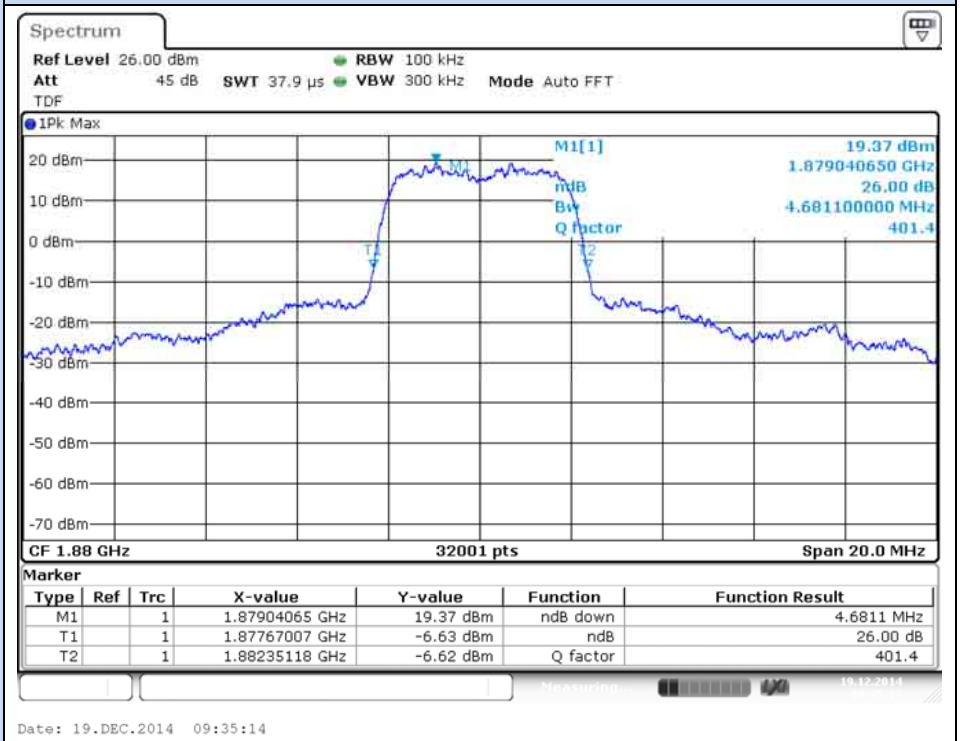
WCDMA Band II RMC Low channel 9262



Occupied bandwidth 99%	**WCDMA Band II RMC Mid channel 9400**

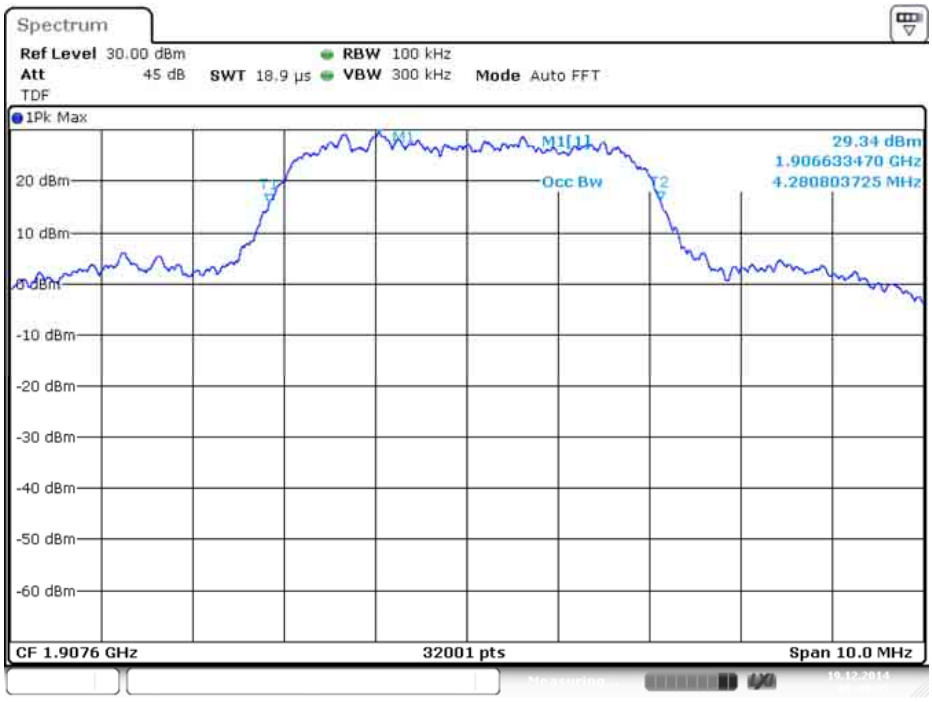


Emission bandwidth -26dB	**WCDMA Band II RMC Mid channel 9400**



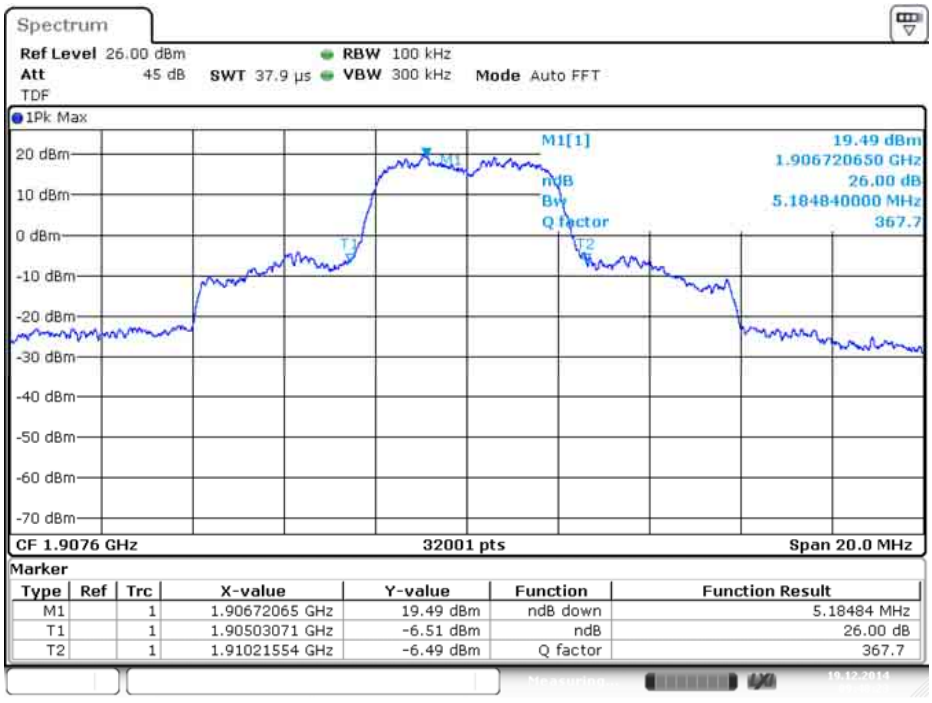
Occupied bandwidth 99%

WCDMA Band II RMC High channel 9538

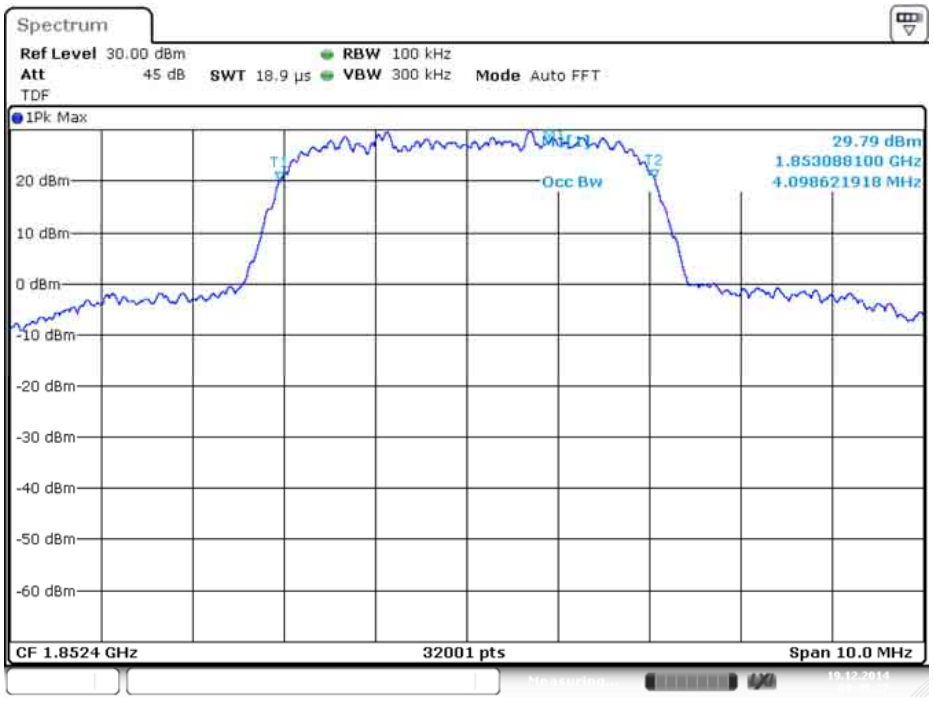


Emission bandwidth -26dB

WCDMA Band II RMC High channel 9538



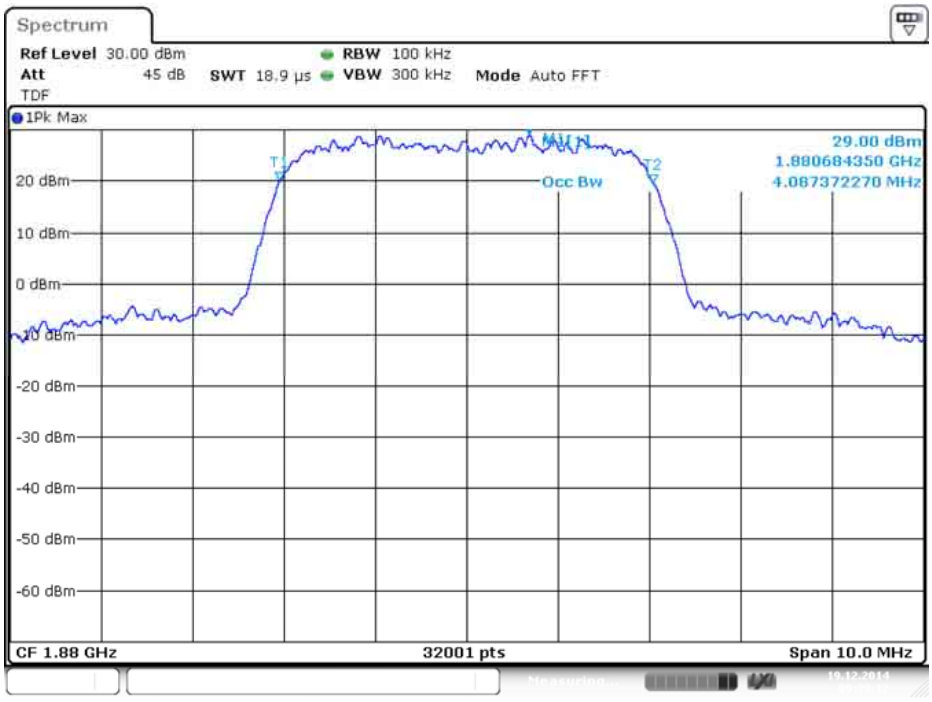
Occupied bandwidth 99%	**WCDMA Band II HSDPA Low channel 9262**



Emission bandwidth -26dB	**WCDMA Band II HSDPA Low channel 9262**

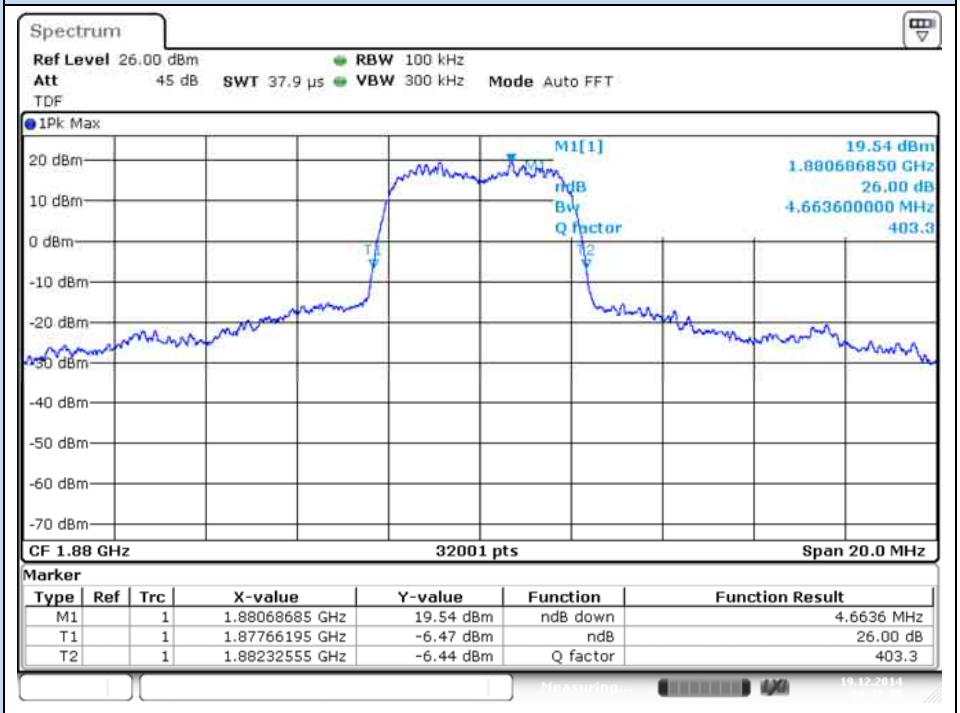
Occupied bandwidth 99%

WCDMA Band II HSDPA Mid channel 9400

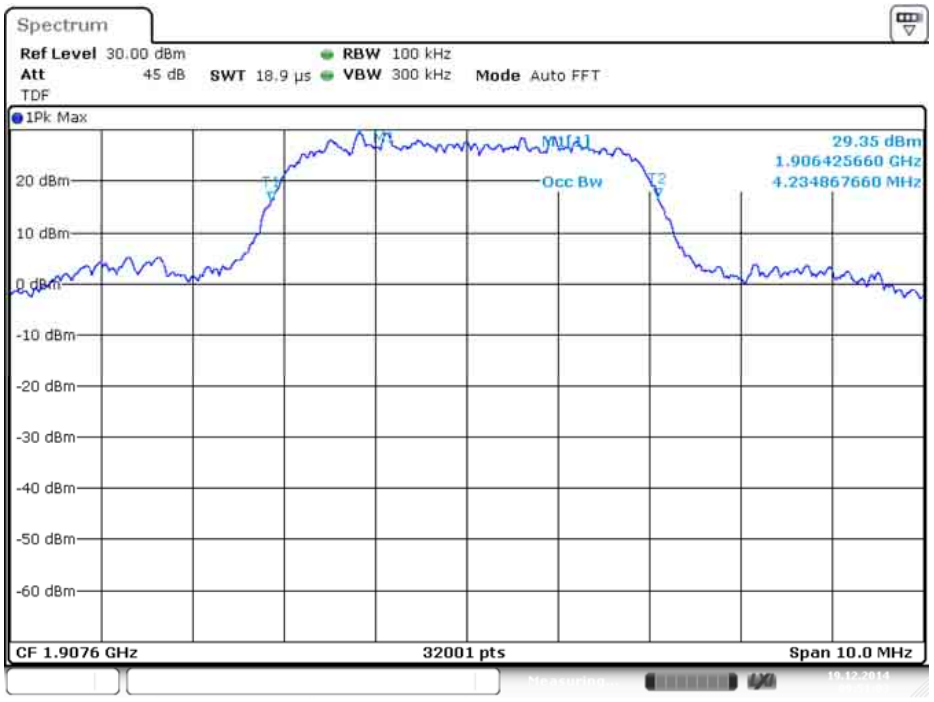


Emission bandwidth -26dB

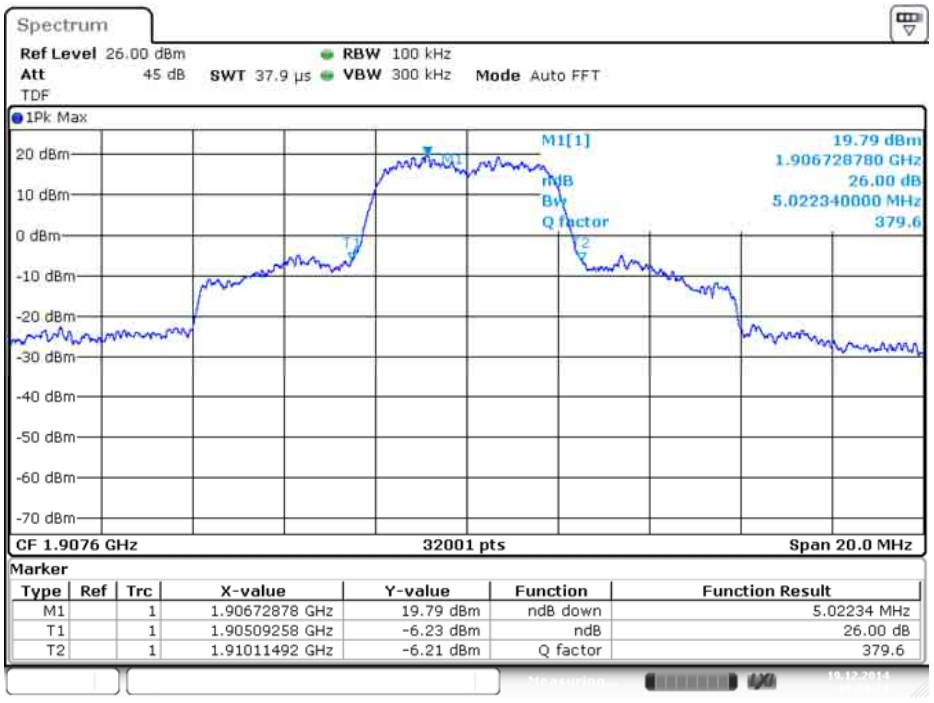
WCDMA Band II HSDPA Mid channel 9400



Occupied bandwidth 99%	**WCDMA Band II HSDPA High channel 9538**

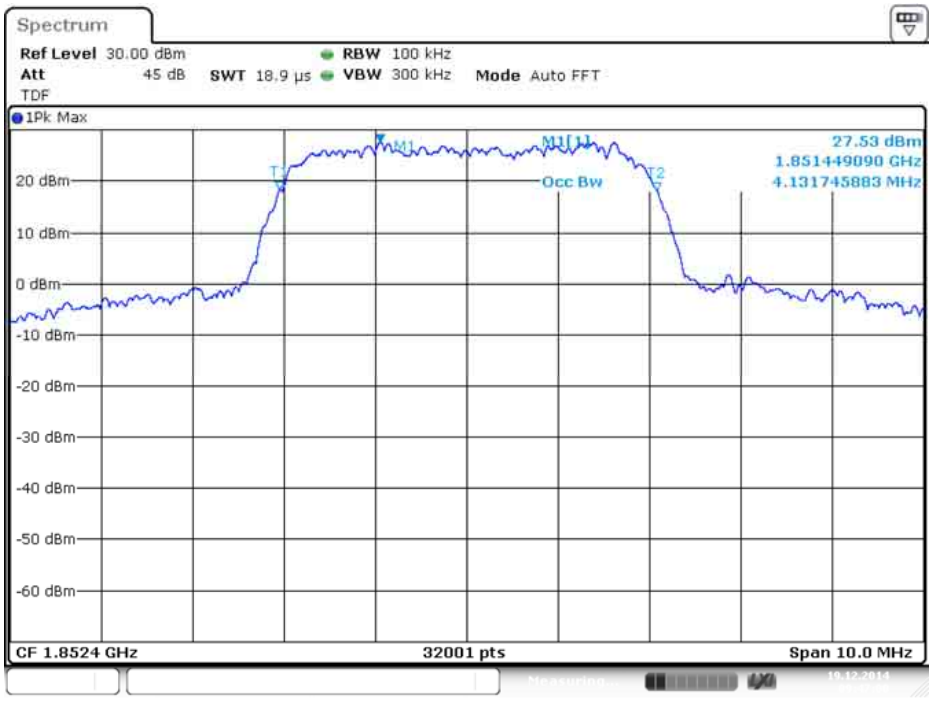


Emission bandwidth -26dB	**WCDMA Band II HSDPA High channel 9538**



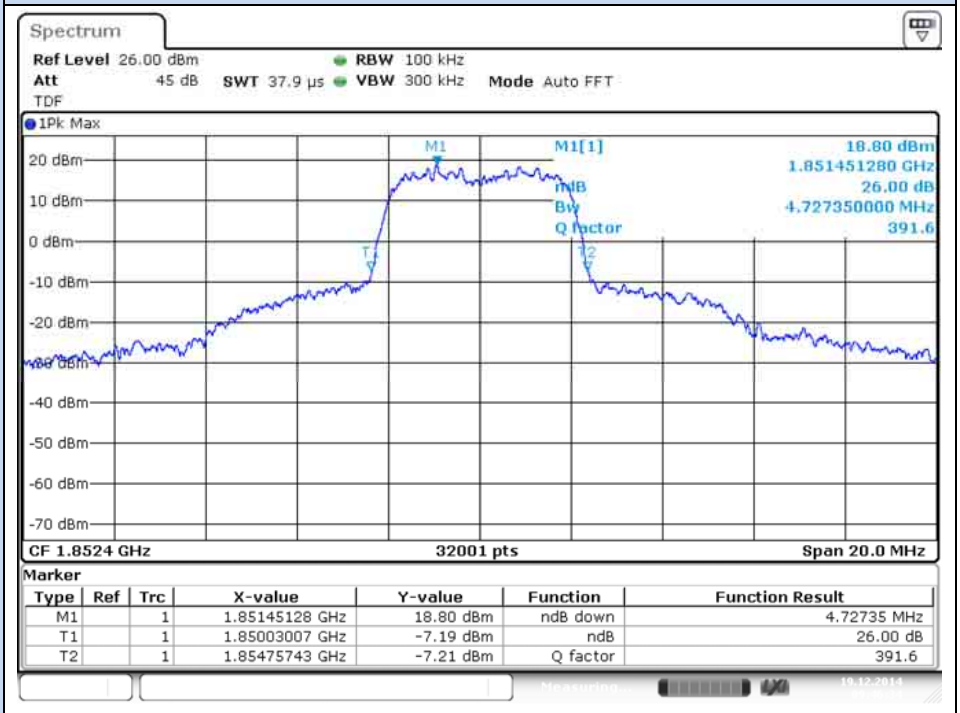
Occupied bandwidth 99%

WCDMA Band II HSUPA Low channel 9262



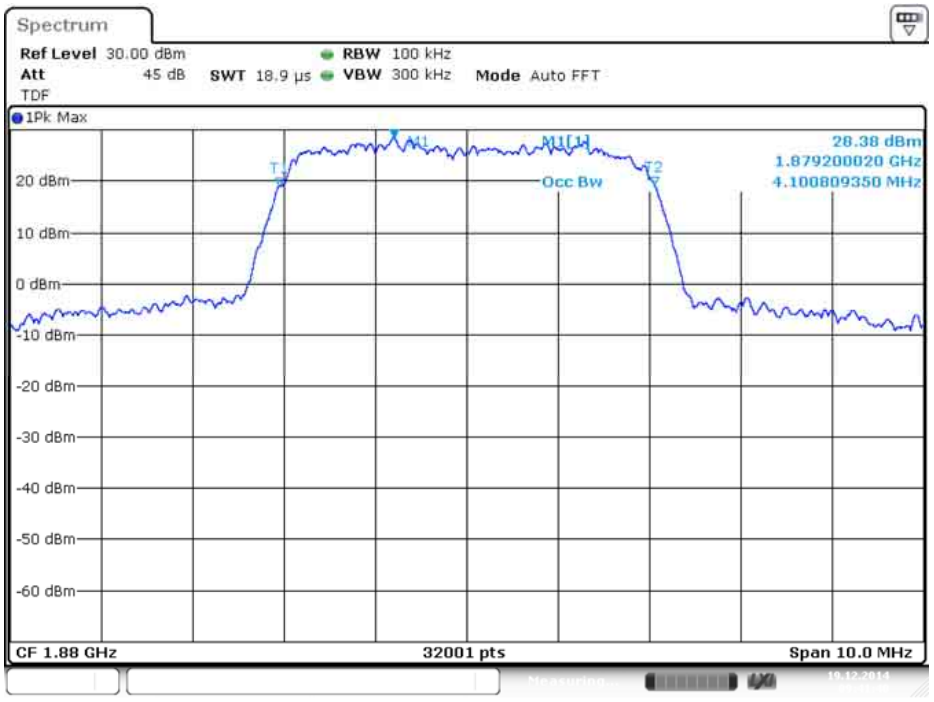
Emission bandwidth -26dB

WCDMA Band II HSUPA Low channel 9262



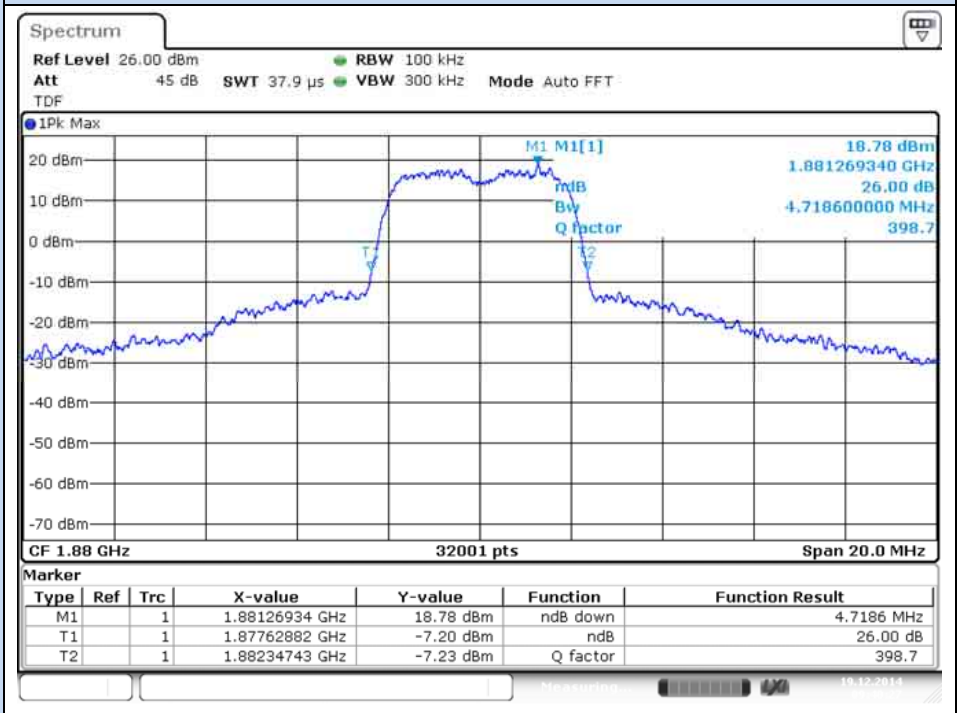
Occupied bandwidth 99%

WCDMA Band II HSUPA Mid channel 9400

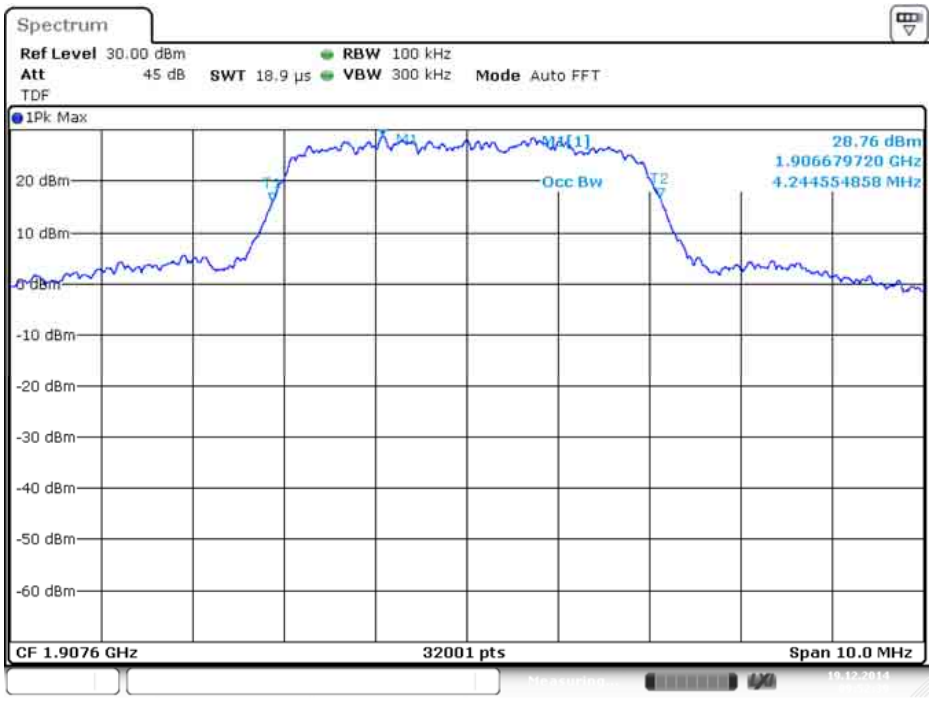


Emission bandwidth -26dB

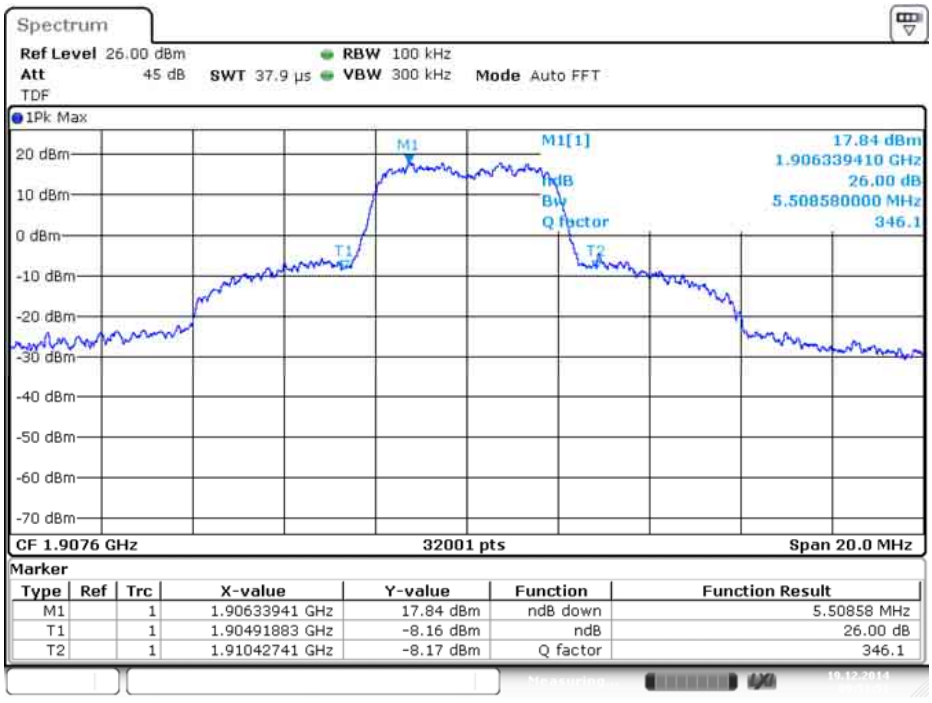
WCDMA Band II HSUPA Mid channel 9400



Occupied bandwidth 99%	**WCDMA Band II HSUPA High channel 9538**



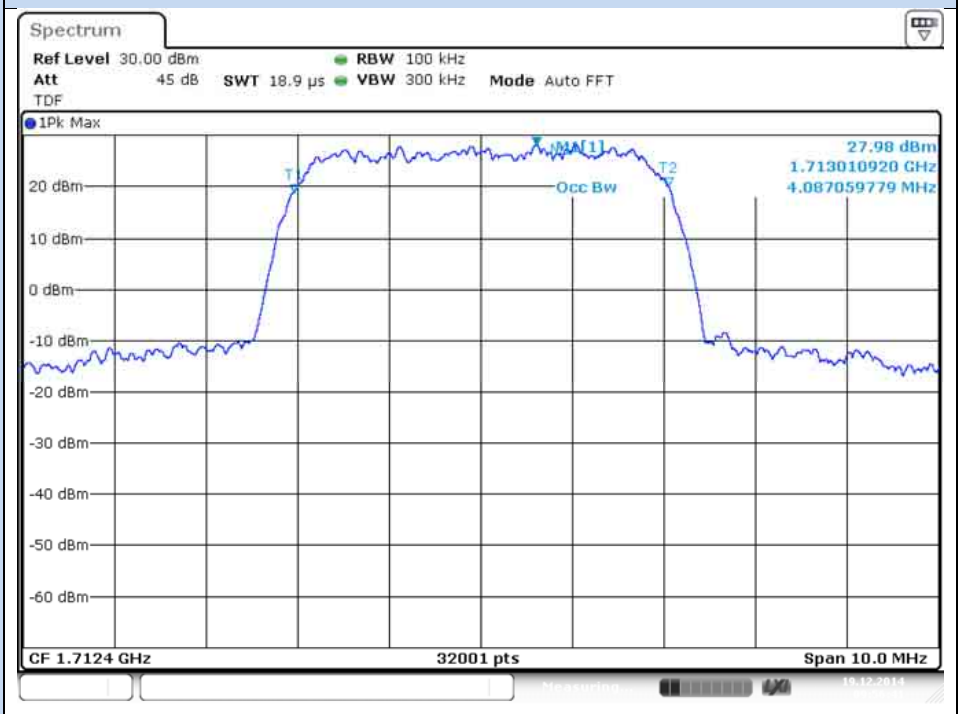
Emission bandwidth -26dB	**WCDMA Band II HSUPA High channel 9538**



WCDMA Band IV

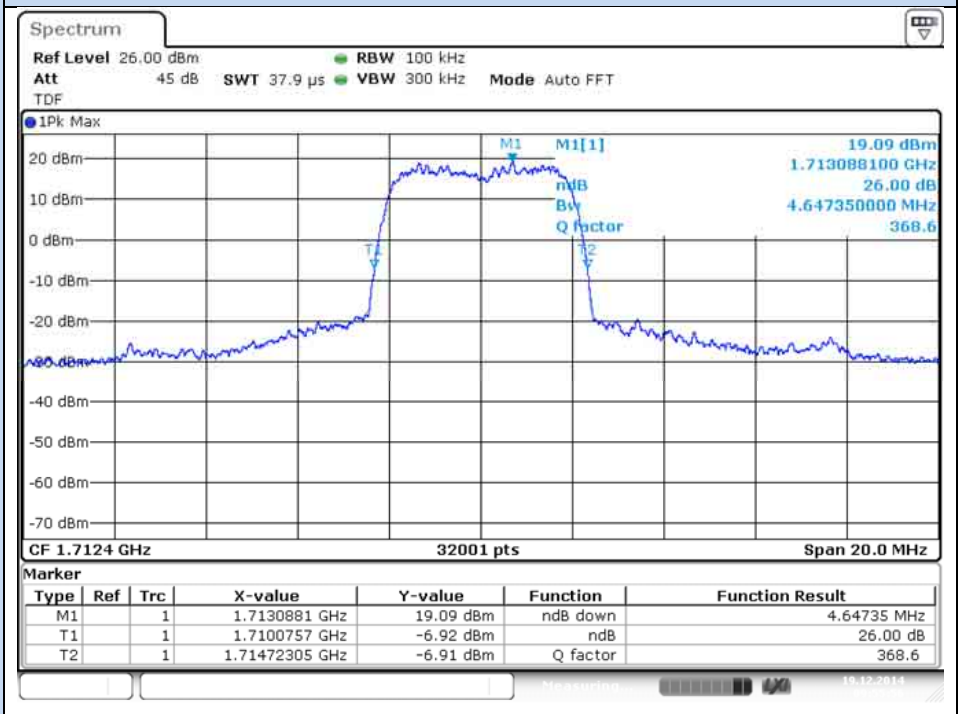
Occupied bandwidth 99%

WCDMA Band IV RMC Low channel 1312

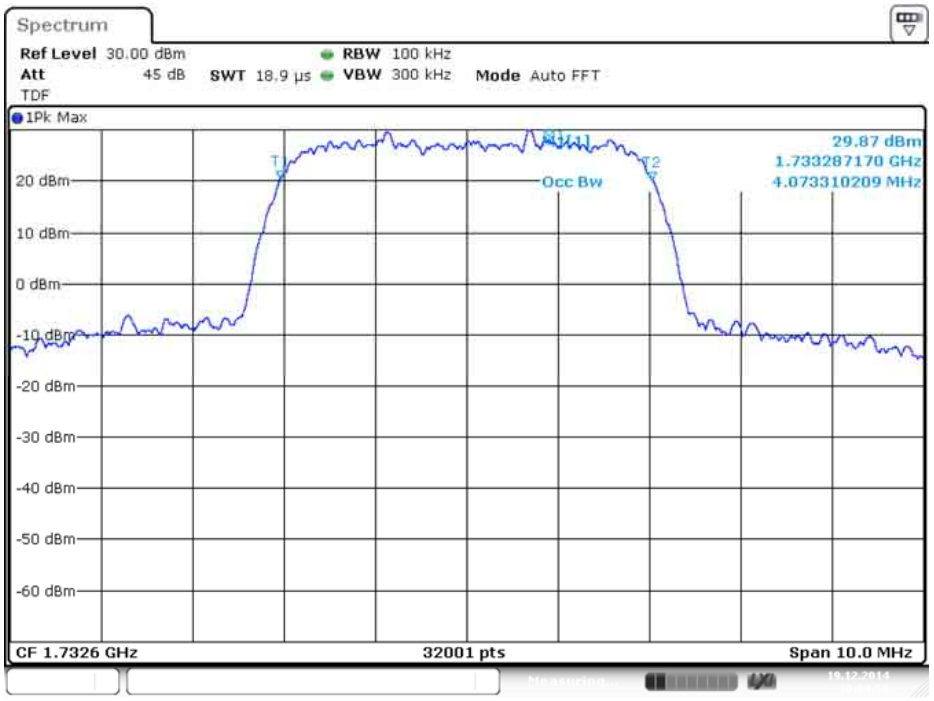


Emission bandwidth -26dB

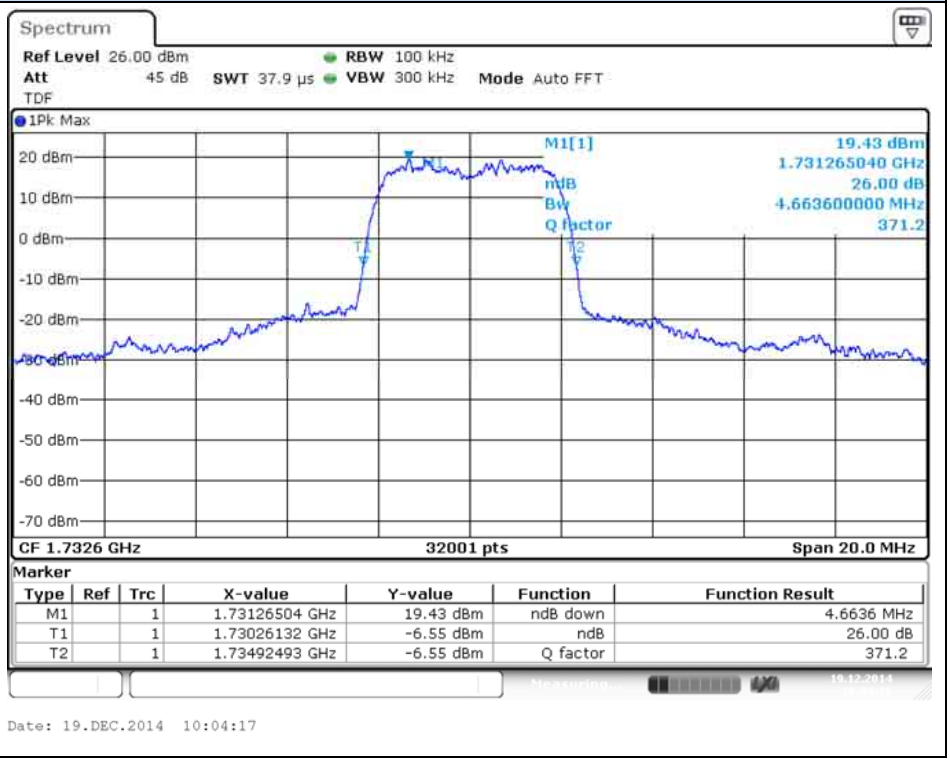
WCDMA Band IV RMC Low channel 1312



Occupied bandwidth 99%	**WCDMA Band IV RMC Mid channel 1413**

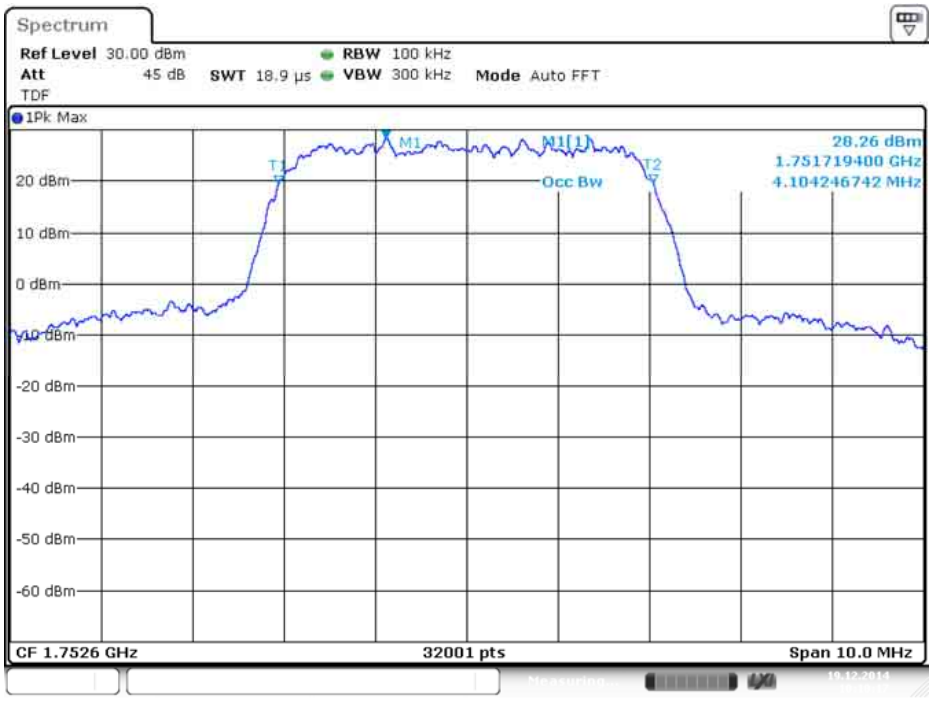


Emission bandwidth -26dB	**WCDMA Band IV RMC Mid channel 1413**



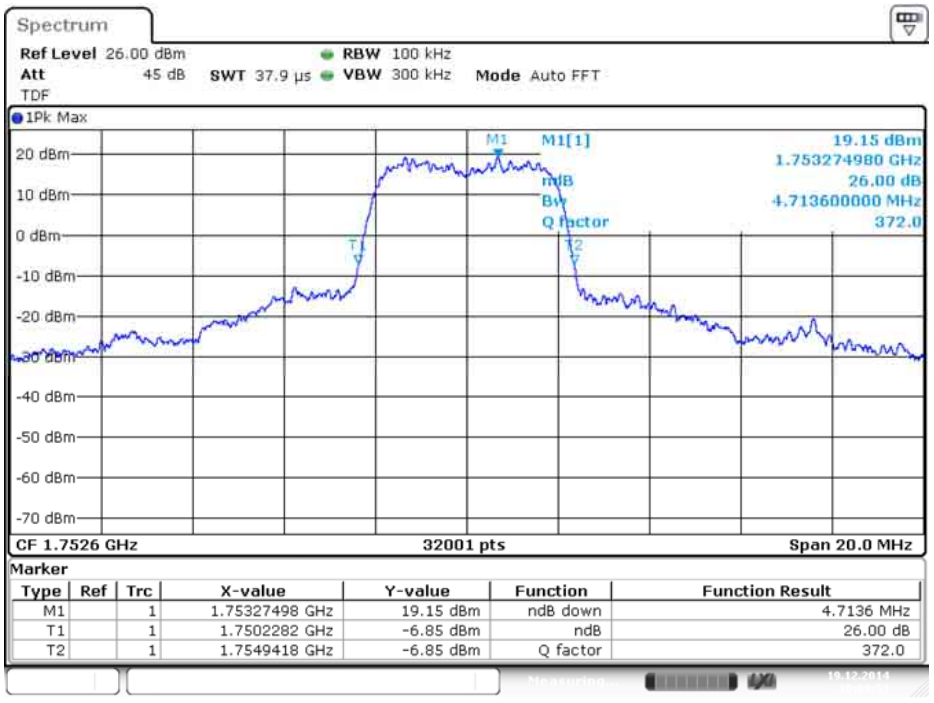
Occupied bandwidth 99%

WCDMA Band IV RMC High channel 1513



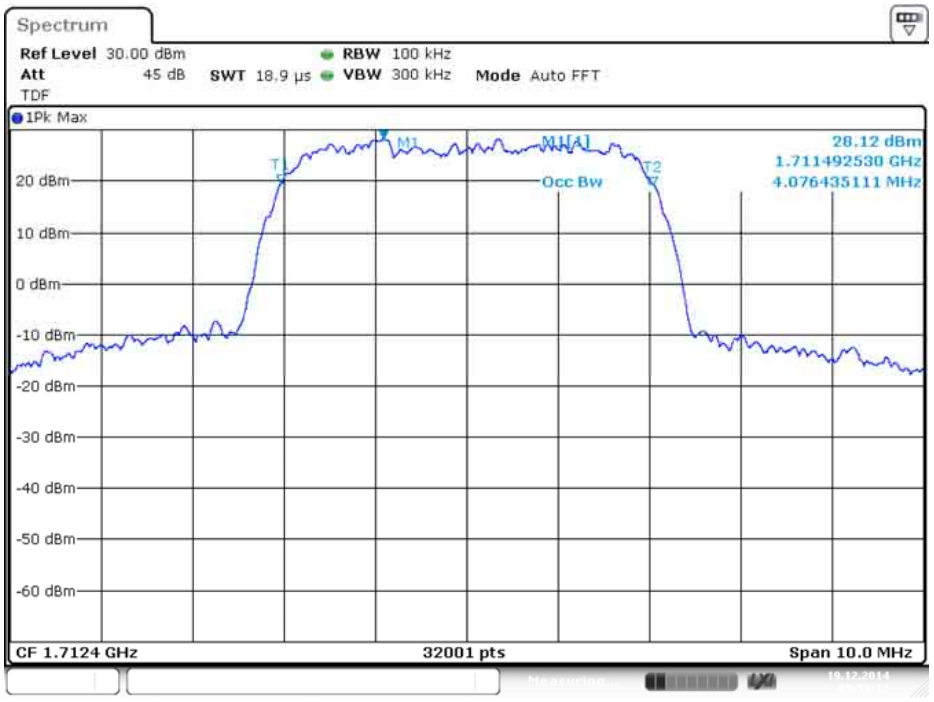
Emission bandwidth -26dB

WCDMA Band IV RMC High channel 1513



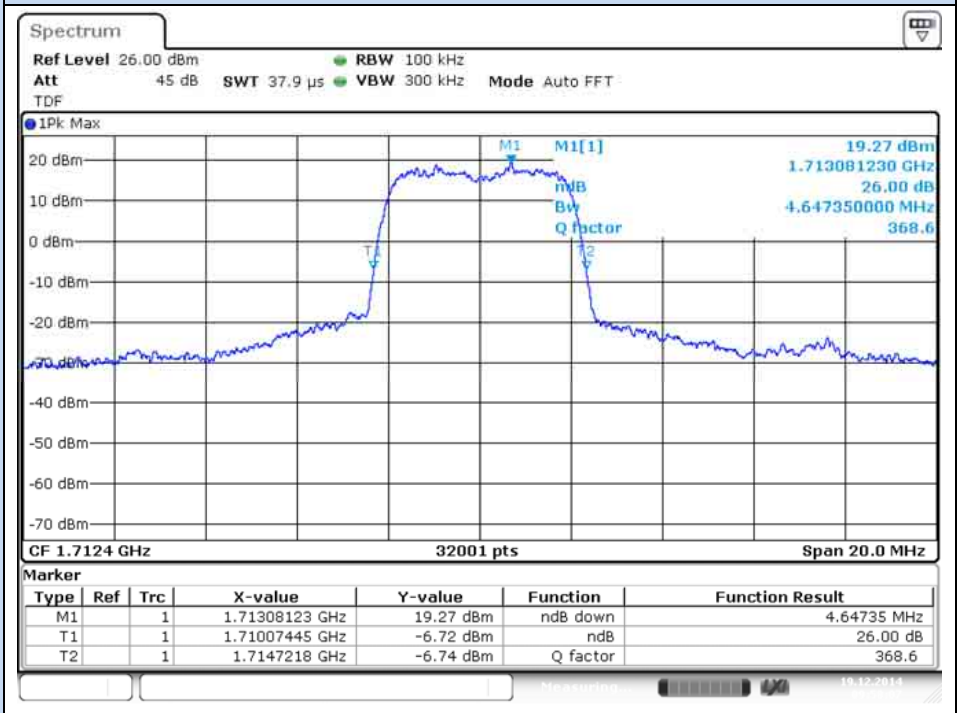
Occupied bandwidth 99%

WCDMA Band IV HSDPA Low channel 1312



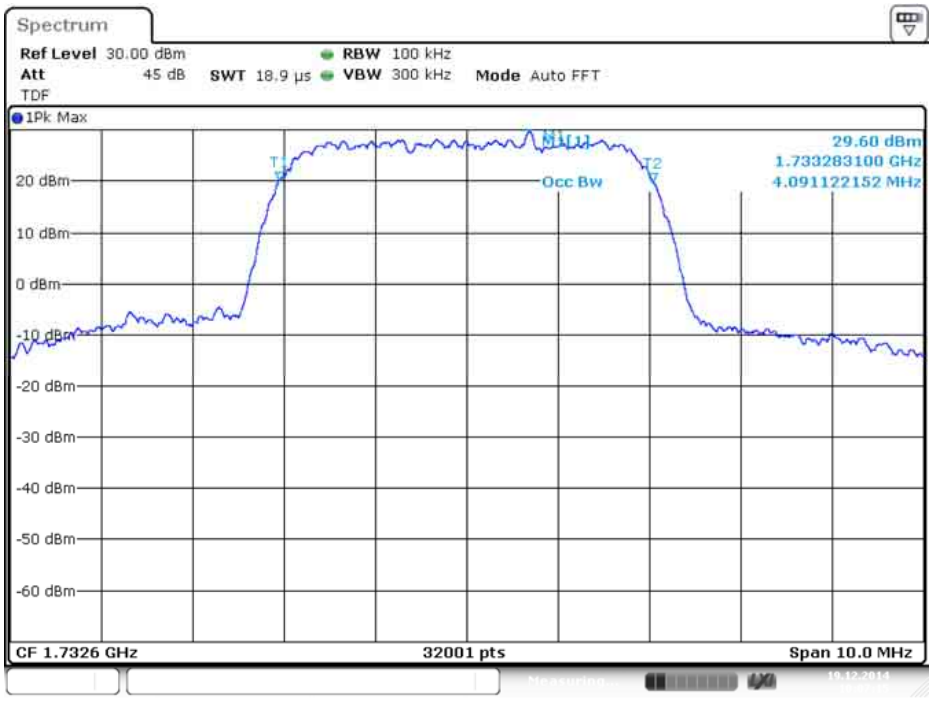
Emission bandwidth -26dB

WCDMA Band IV HSDPA Low channel 1312



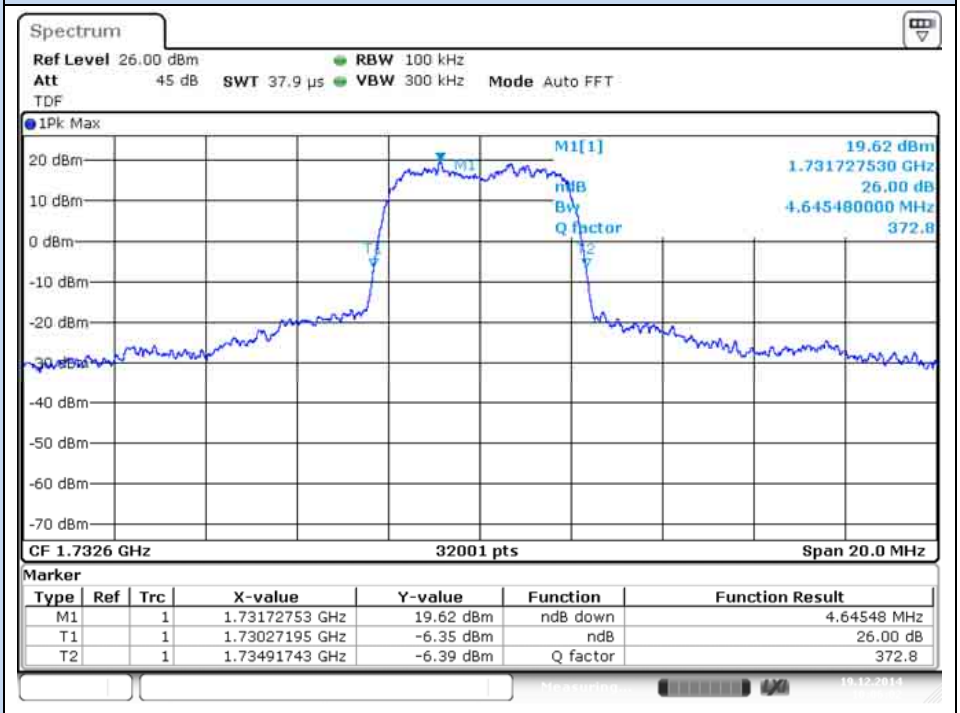
Occupied bandwidth 99%

WCDMA Band IV HSDPA Mid channel 1413



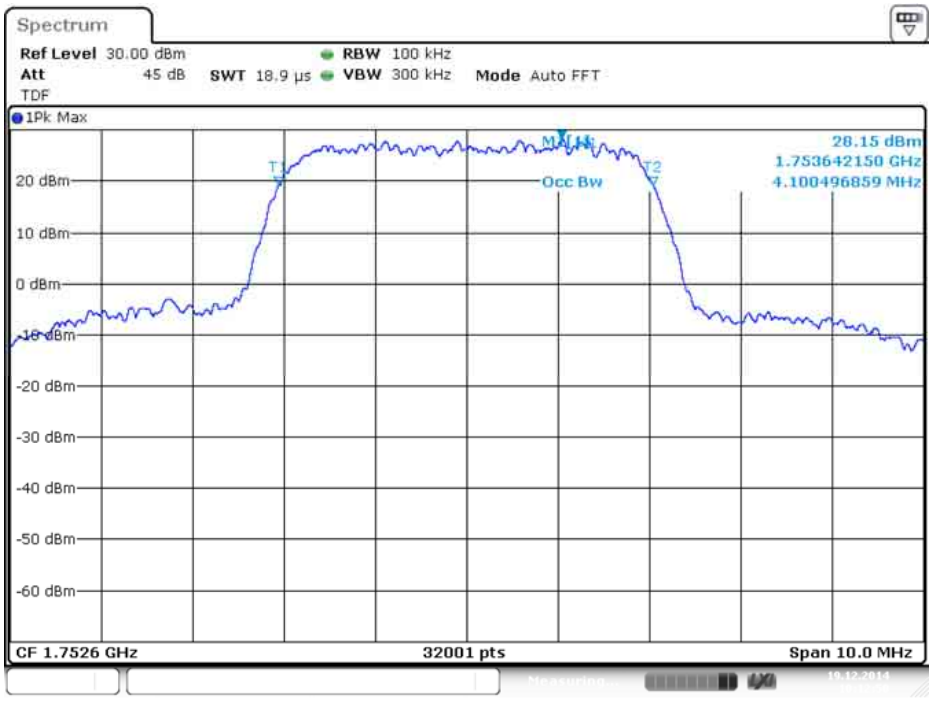
Emission bandwidth -26dB

WCDMA Band IV HSDPA Mid channel 1413



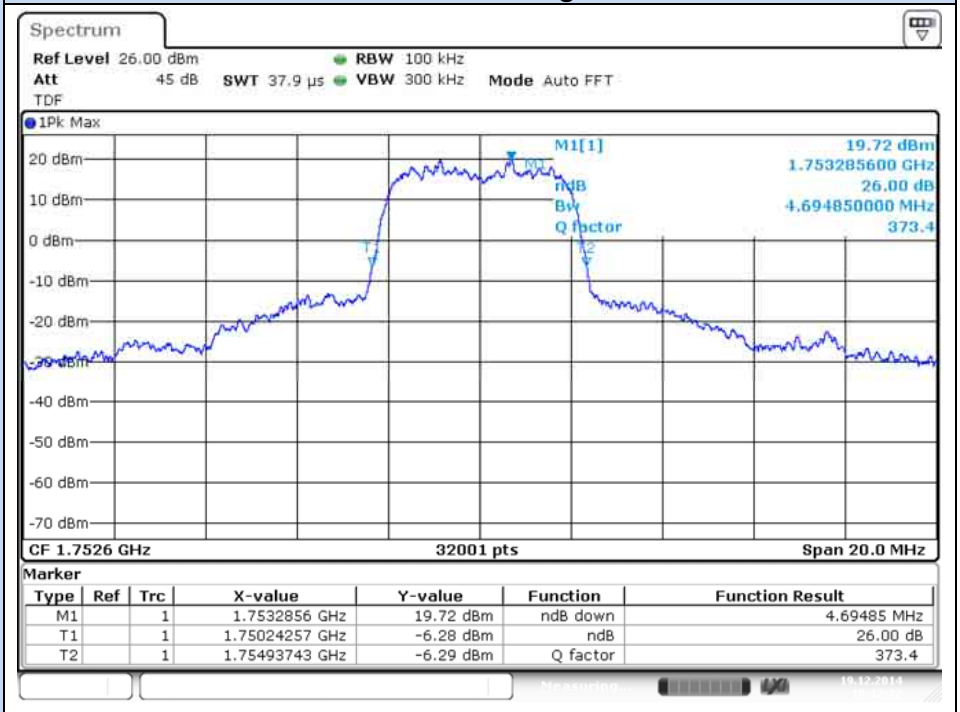
Occupied bandwidth 99%

WCDMA Band IV HSDPA High channel 1513



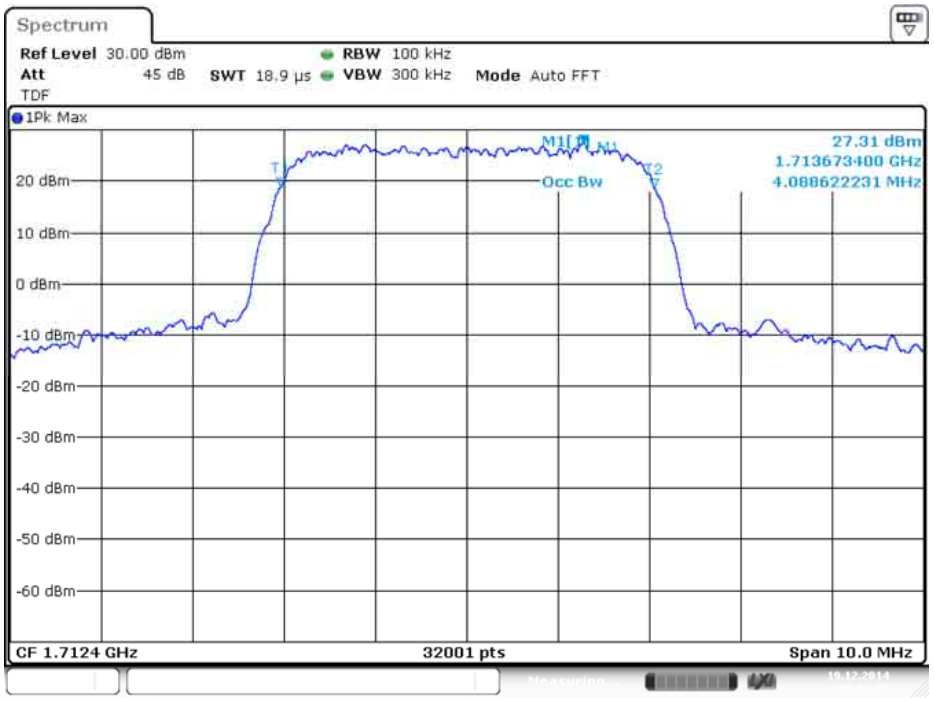
Emission bandwidth -26dB

WCDMA Band IV HSDPA High channel 1513



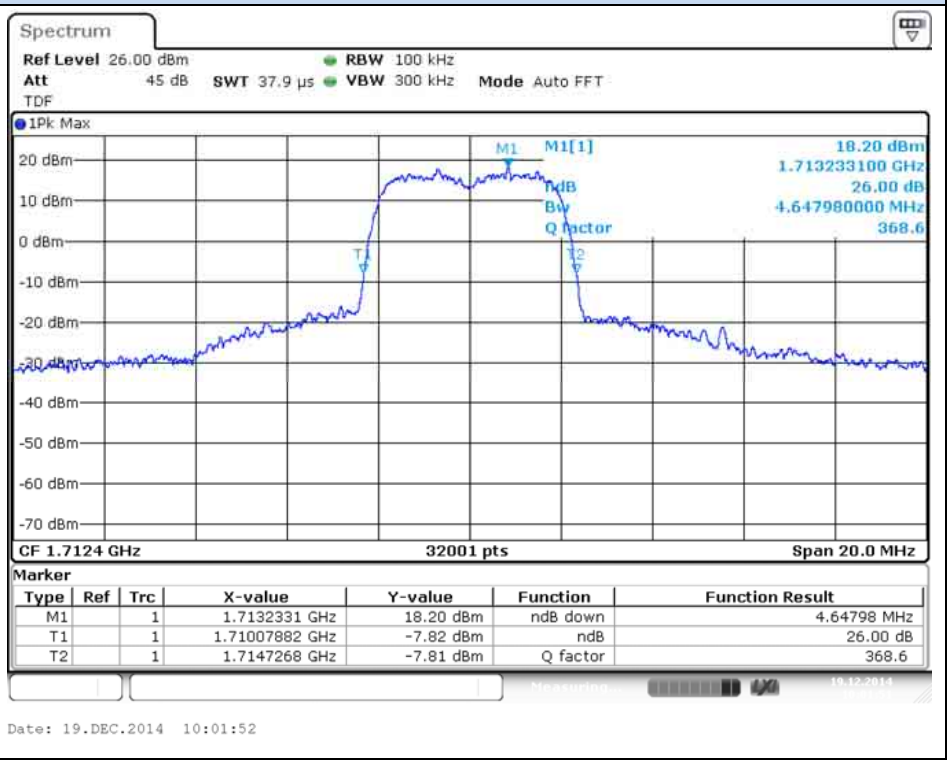
Occupied bandwidth 99%

WCDMA Band IV HSUPA Low channel 1312



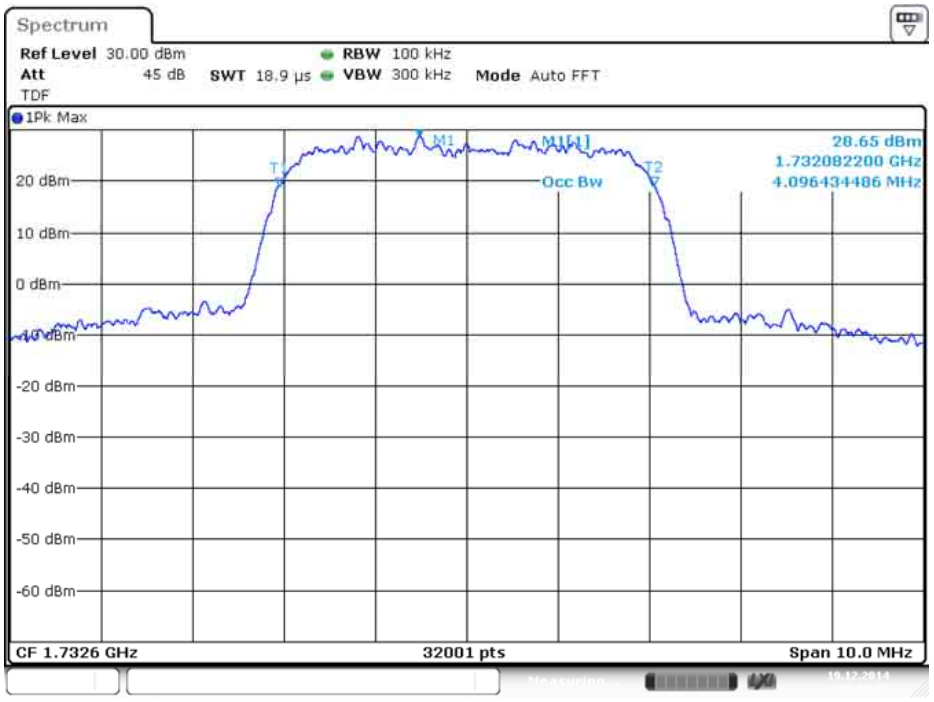
Emission bandwidth -26dB

WCDMA Band IV HSUPA Low channel 1312



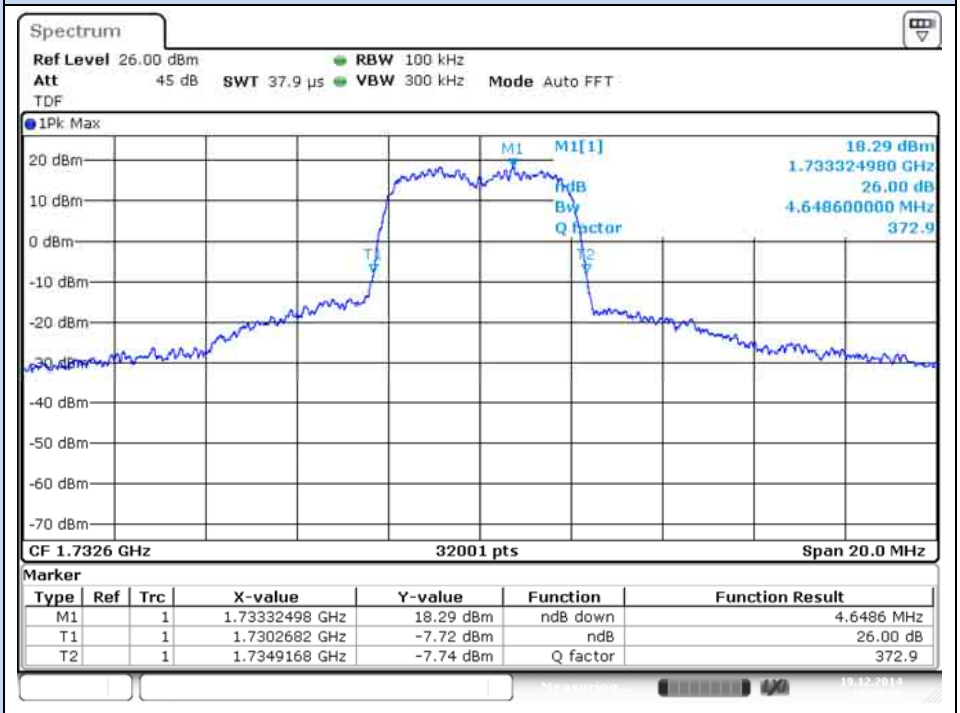
Occupied bandwidth 99%

WCDMA Band IV HSUPA Mid channel 1413



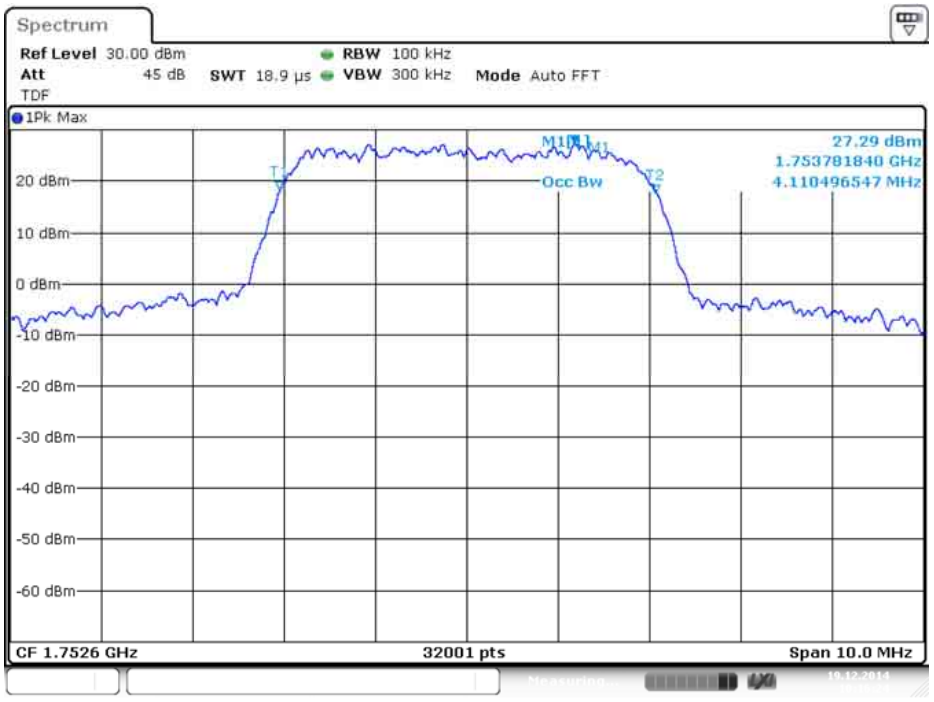
Emission bandwidth -26dB

WCDMA Band IV HSUPA Mid channel 1413



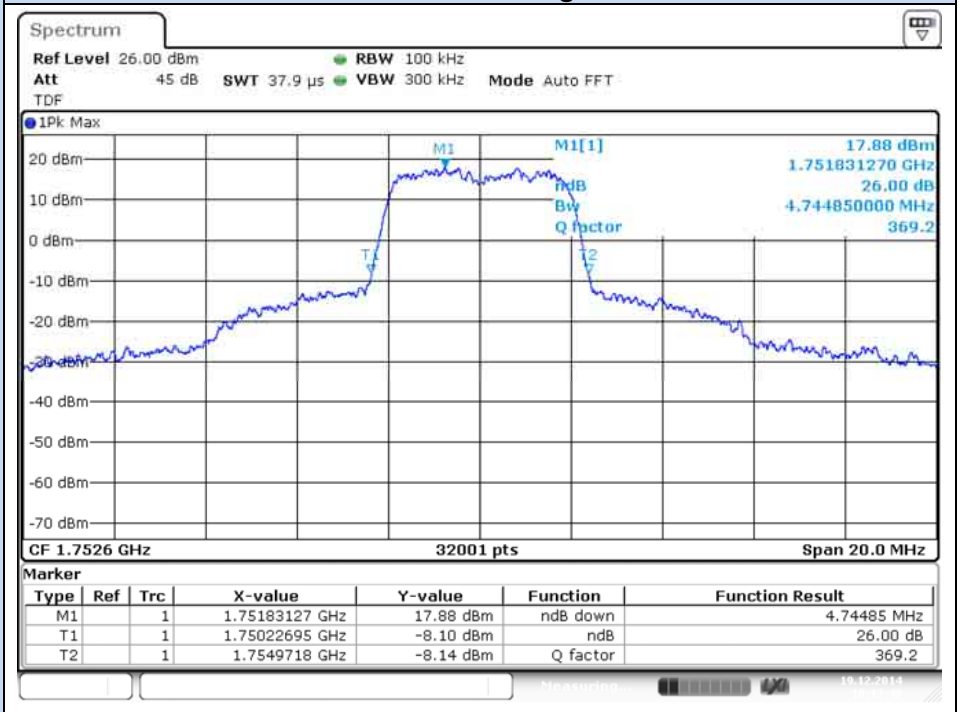
Occupied bandwidth 99%

WCDMA Band IV HSUPA High channel 1513



Emission bandwidth -26dB

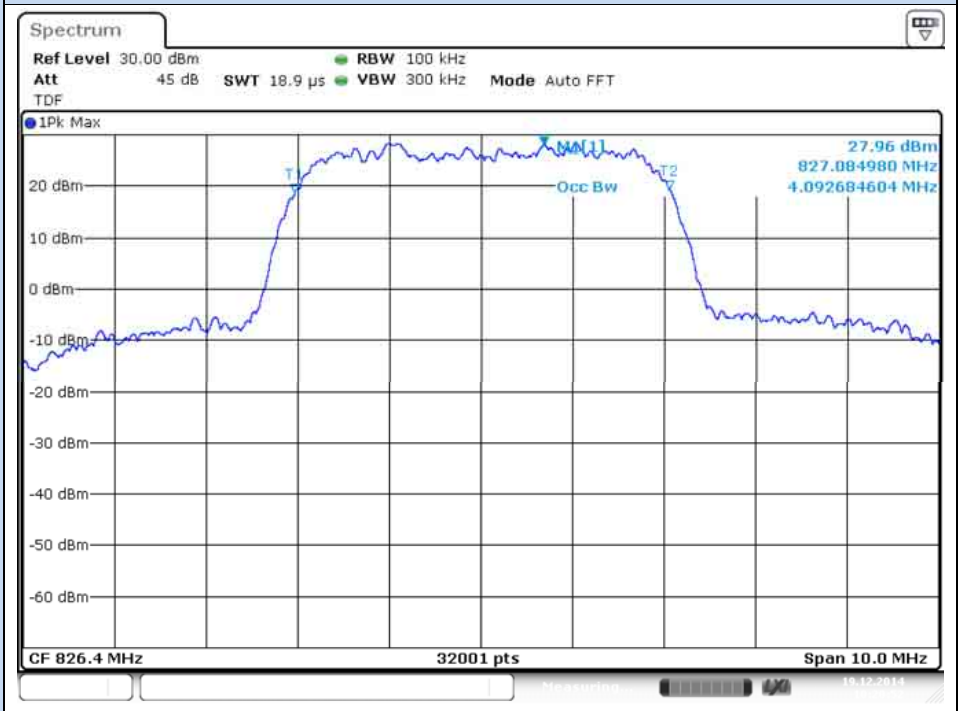
WCDMA Band IV HSUPA High channel 1513



WCDMA Band V

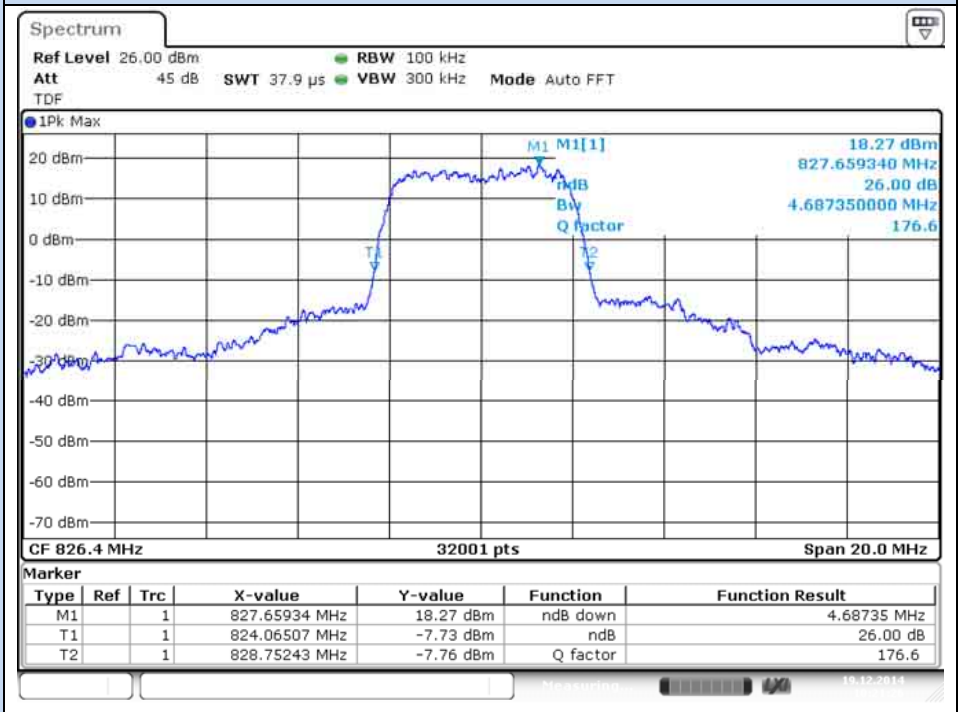
Occupied bandwidth 99%

WCDMA Band V RMC Low channel 4132



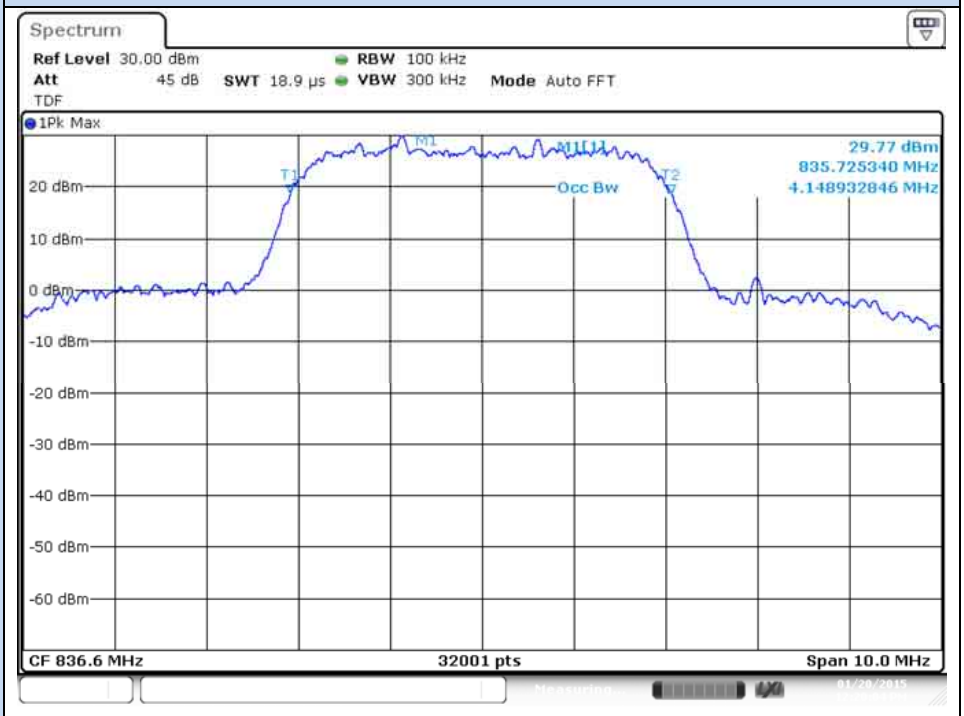
Emission bandwidth -26dB

WCDMA Band V RMC Low channel 4132



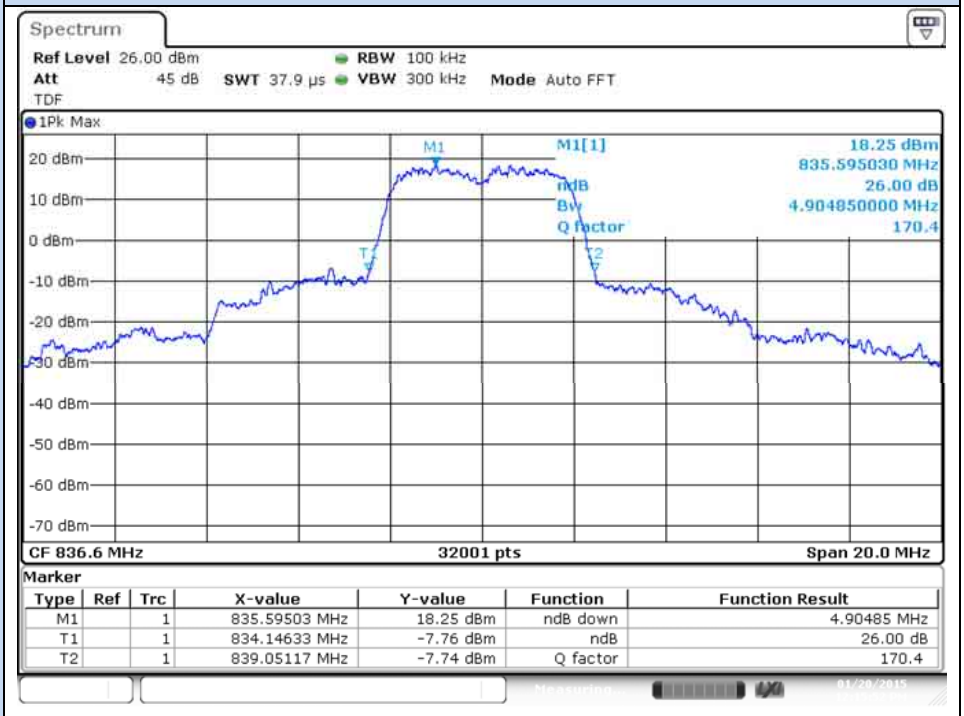
Occupied bandwidth 99%

WCDMA Band V RMC Mid channel 4183



Emission bandwidth -26dB

WCDMA Band V RMC Mid channel 4183

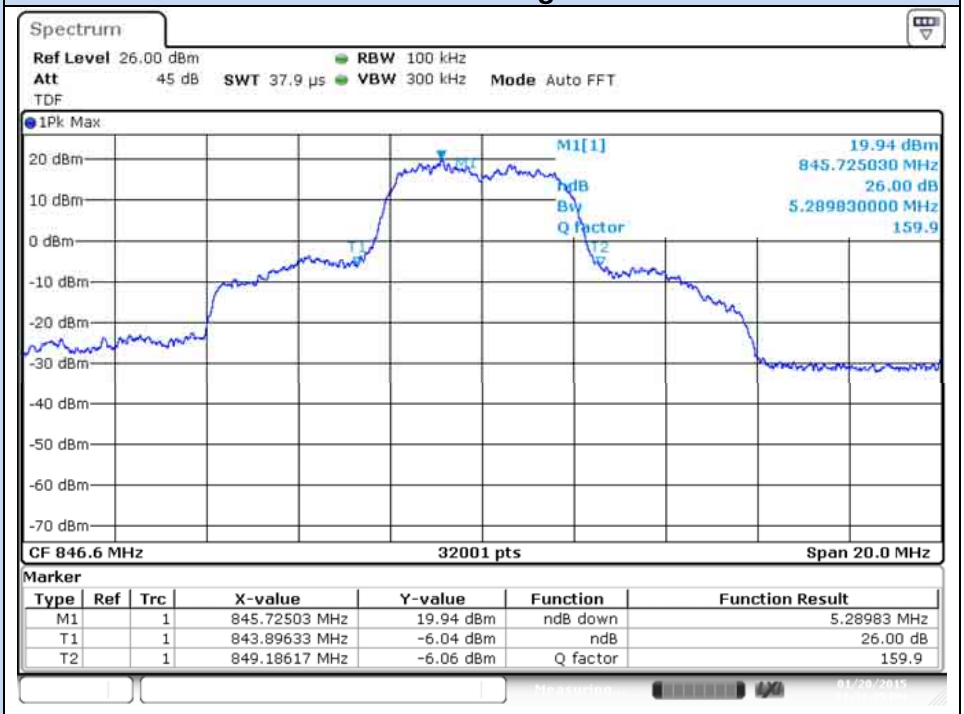


Occupied bandwidth 99%

WCDMA Band V RMC High channel 4233

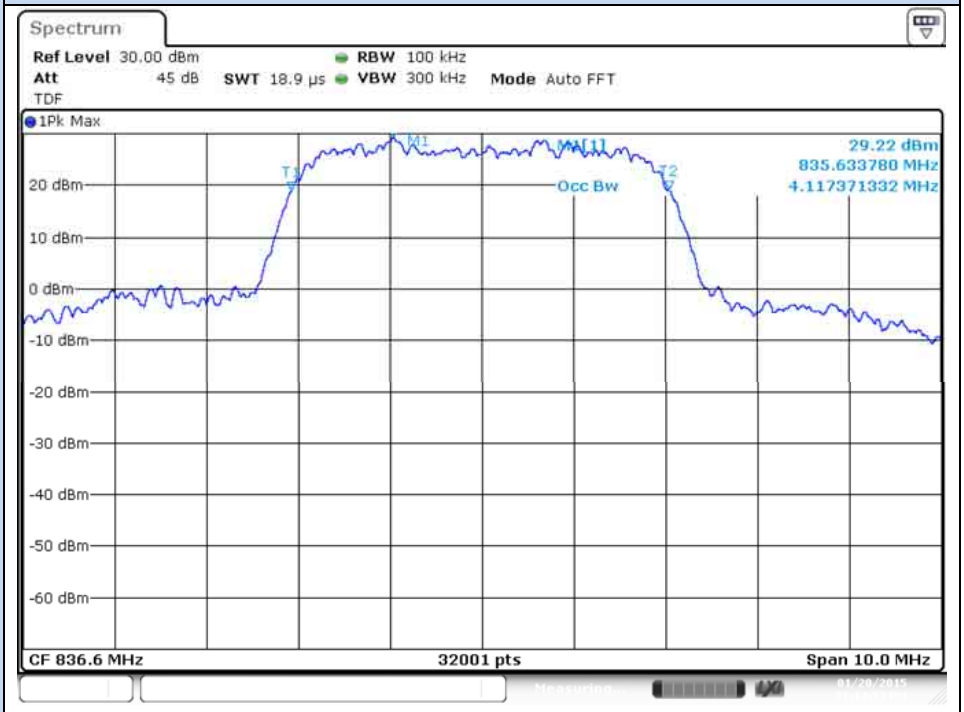
Emission bandwidth -26dB

WCDMA Band V RMC High channel 4233



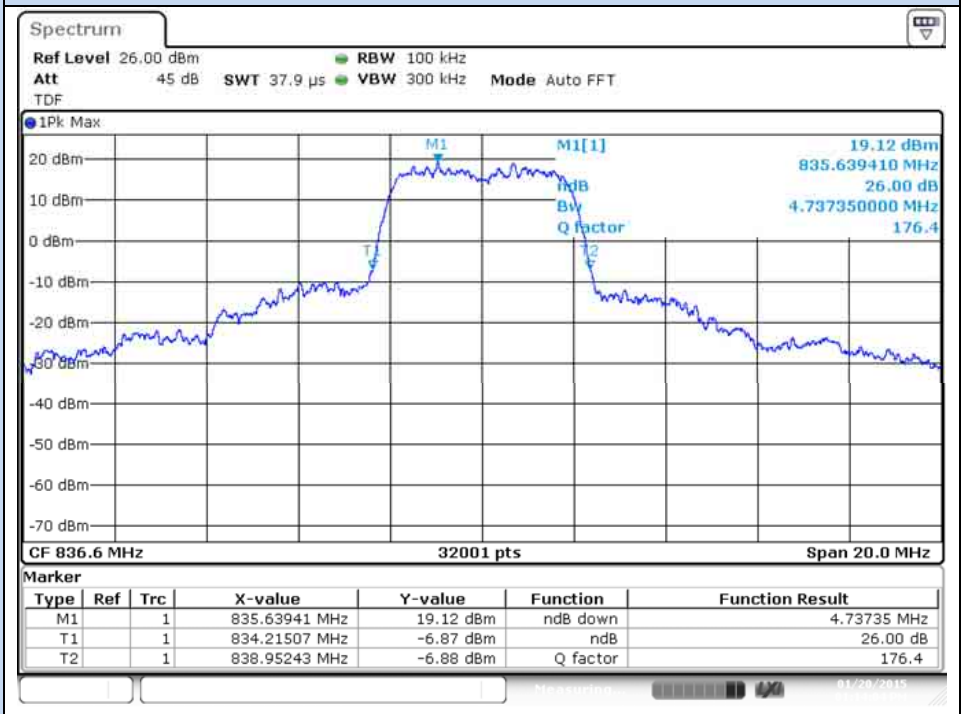
Occupied bandwidth 99%

WCDMA Band V HSDPA Mid channel 4183



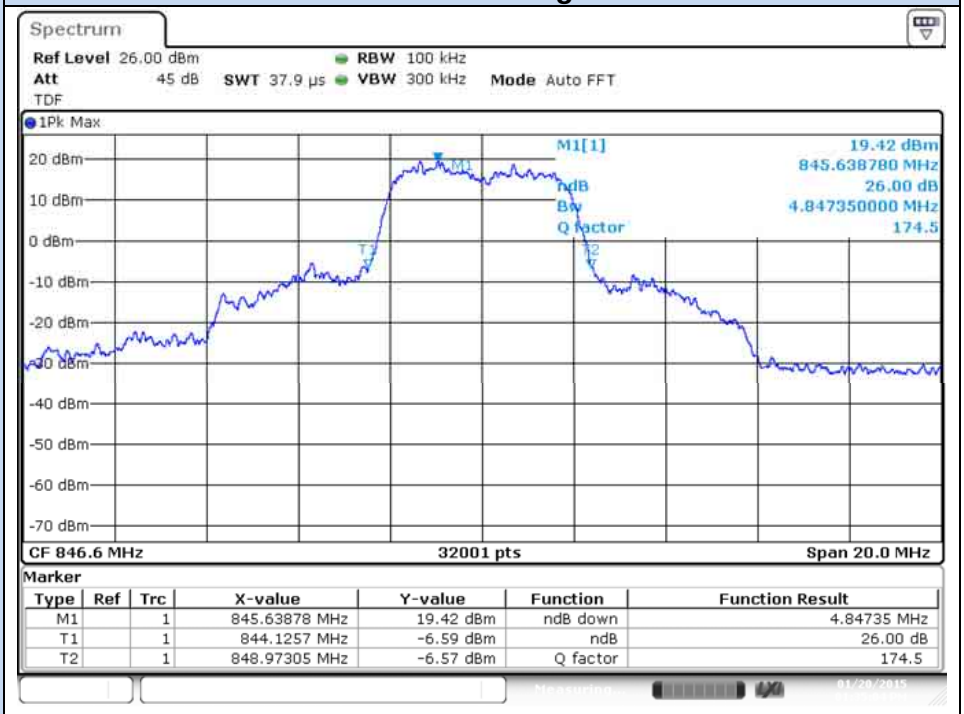
Emission bandwidth -26dB

WCDMA Band V HSDPA Mid channel 4183

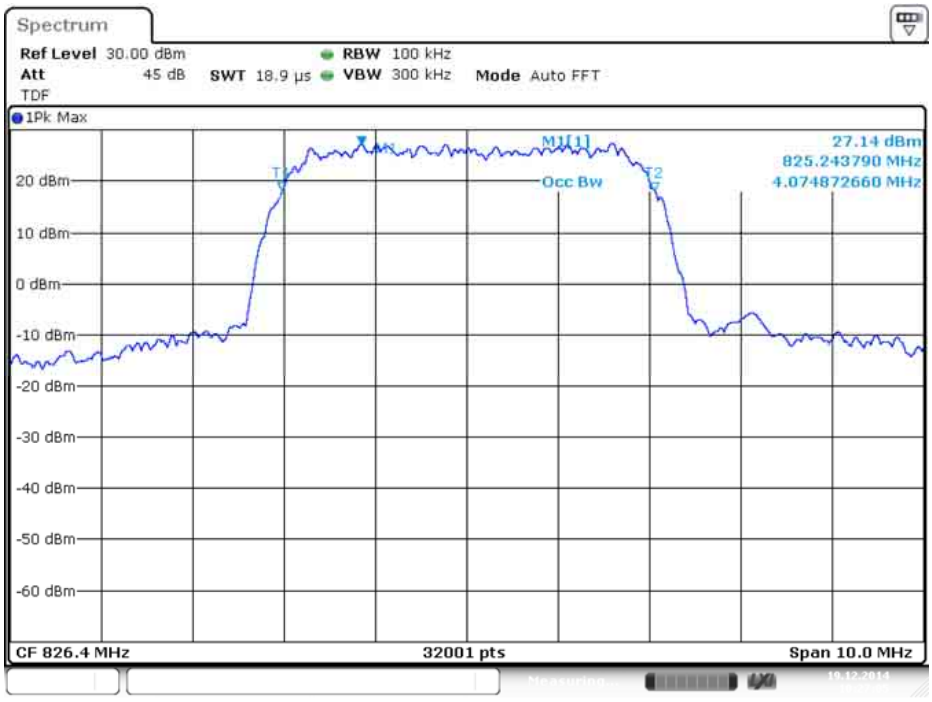


Occupied bandwidth 99%	**WCDMA Band V HSDPA High channel 4233**

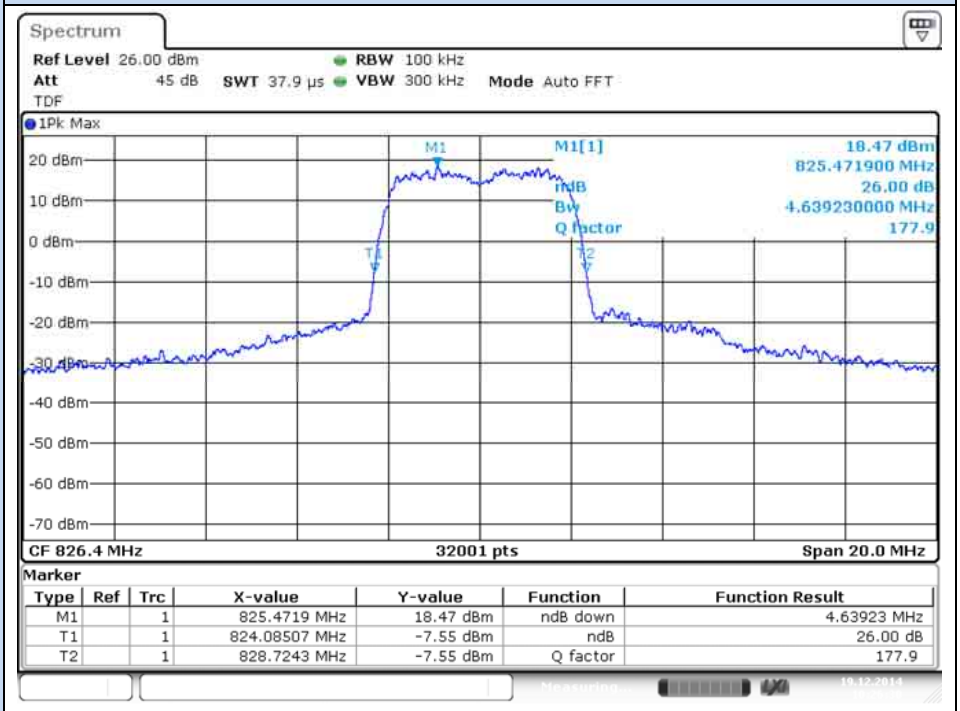
Emission bandwidth -26dB	**WCDMA Band V HSDPA High channel 4233**



Occupied bandwidth 99%	**WCDMA Band V HSUPA Low channel 4132**

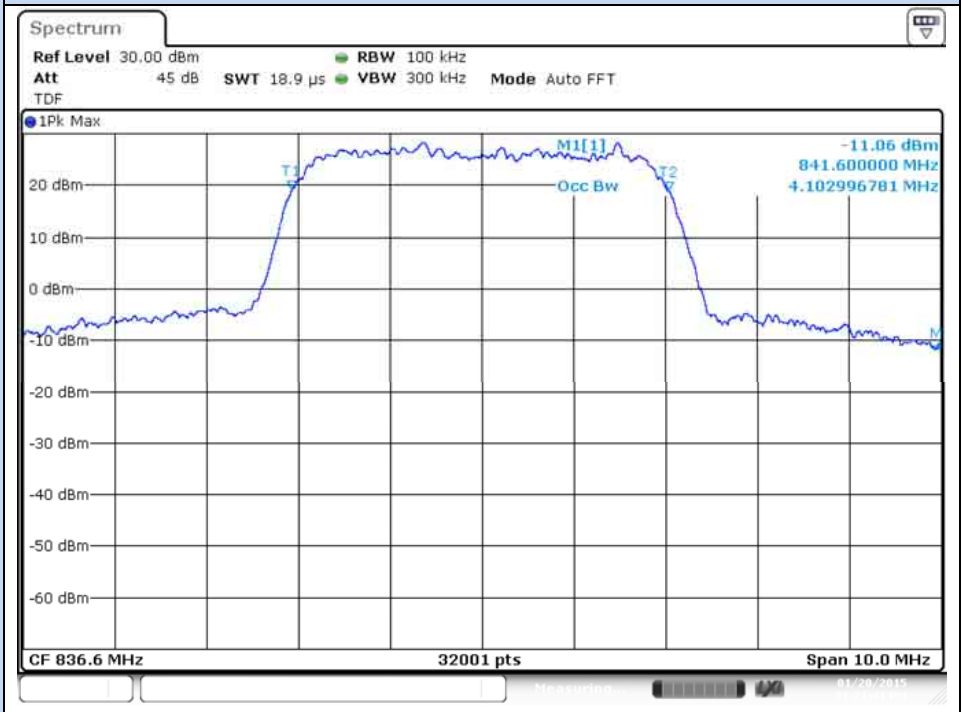


Emission bandwidth -26dB	**WCDMA Band V HSUPA Low channel 4132**



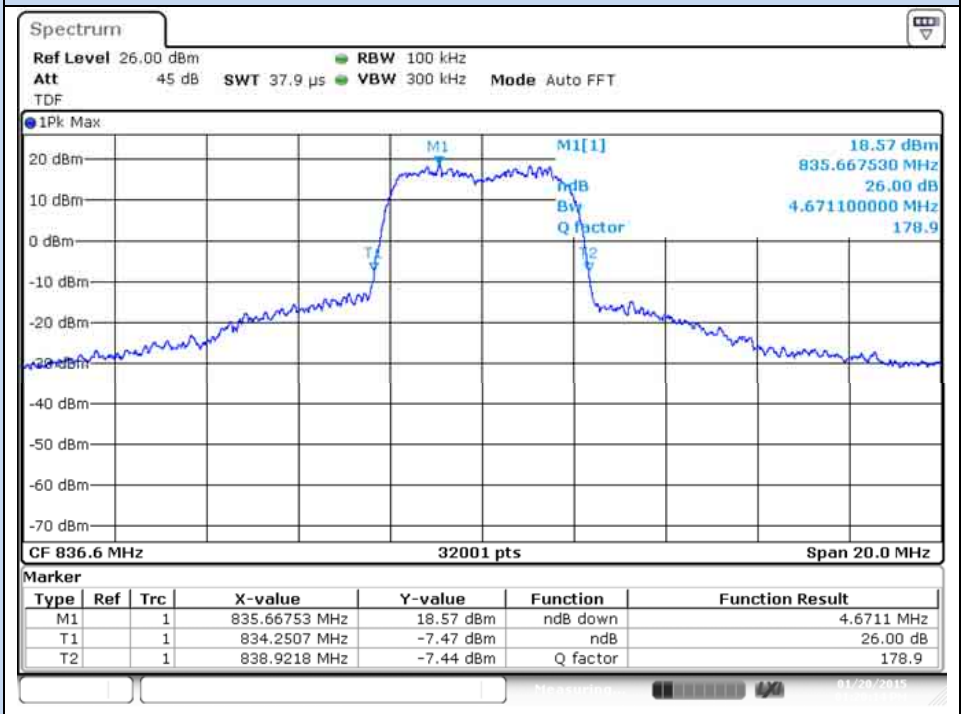
Occupied bandwidth 99%

WCDMA Band V HSUPA Mid channel 4183



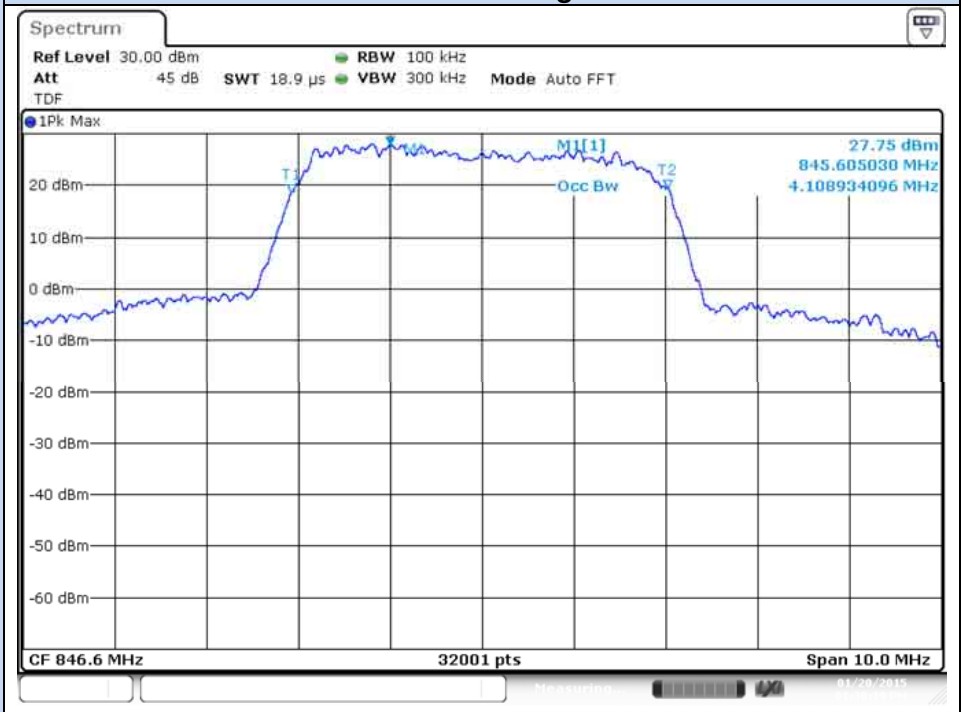
Emission bandwidth -26dB

WCDMA Band V HSUPA Mid channel 4183



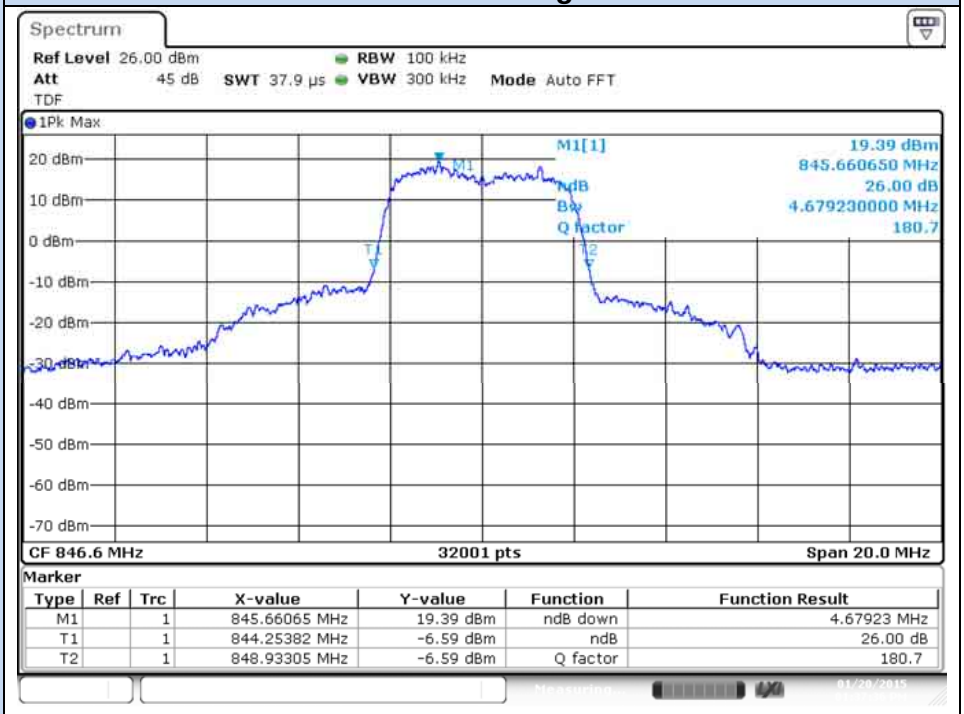
Occupied bandwidth 99%

WCDMA Band V HSUPA High channel 4233



Emission bandwidth -26dB

WCDMA Band V HSUPA High channel 4233



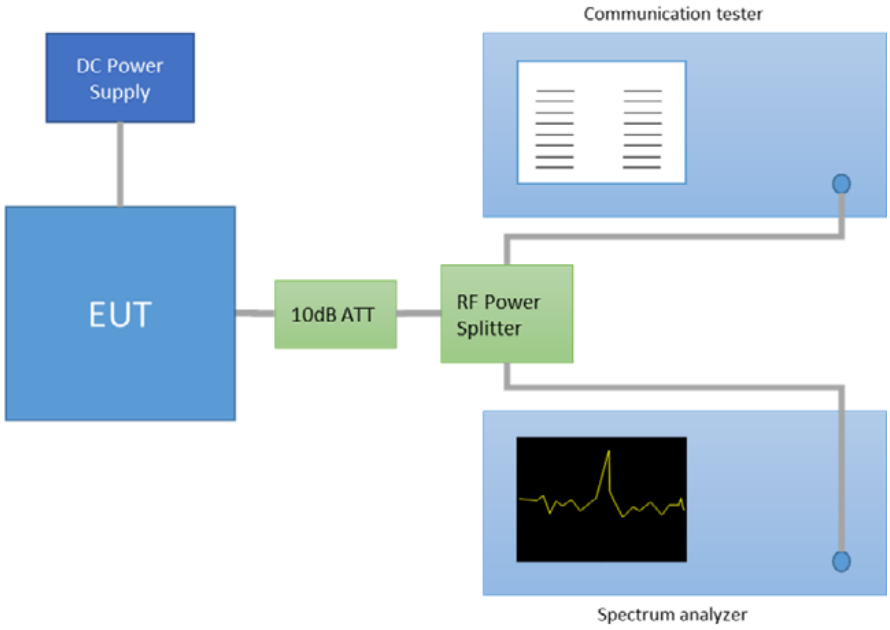
B.2.3 Peak to average ratio

Standard references

BAND	FCC part	RSS part	Peak to average ratio limit
PCS 1900, WCDMA 2	24.232	133-ch.6.4	< 13 dB

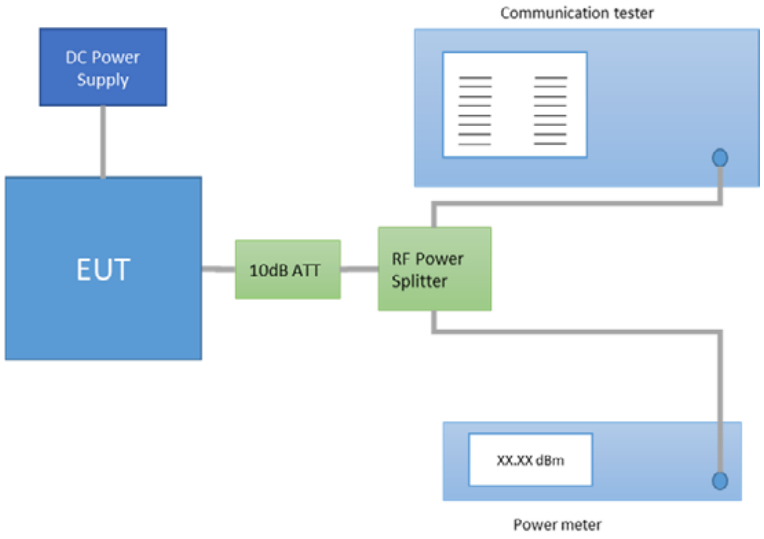
Test procedure for GSM

The setup below was used to measure the peak to average power ratio. The antenna terminal of the EUT is connected to the spectrum analyzer and the communication tester through an attenuator and a power splitter. This test was performed according to the KDB 971168 D01 § 5.1.



Test procedure for WCDMA

The setup below was used to measure the transmitted peak power. The antenna terminal of the EUT is connected to the peak power meter and the communication tester through an attenuator and a power splitter. This test was performed according to the KDB 971168 D01 § 5.1. Then the Peak to average power ratio is computed from the average power measured previously.



Results table

GSM

Band	Mode	Modulation	Channel Number	Frequency [MHz]	#UL Slots	Result [dB]
GSM850	GPRS	GMSK	190	836.6	1	0.23
	EDGE	8PSK			2	2.42
GSM1900	GPRS	GMSK	661	1880.0	1	0.13
	EDGE	8PSK			2	1.88

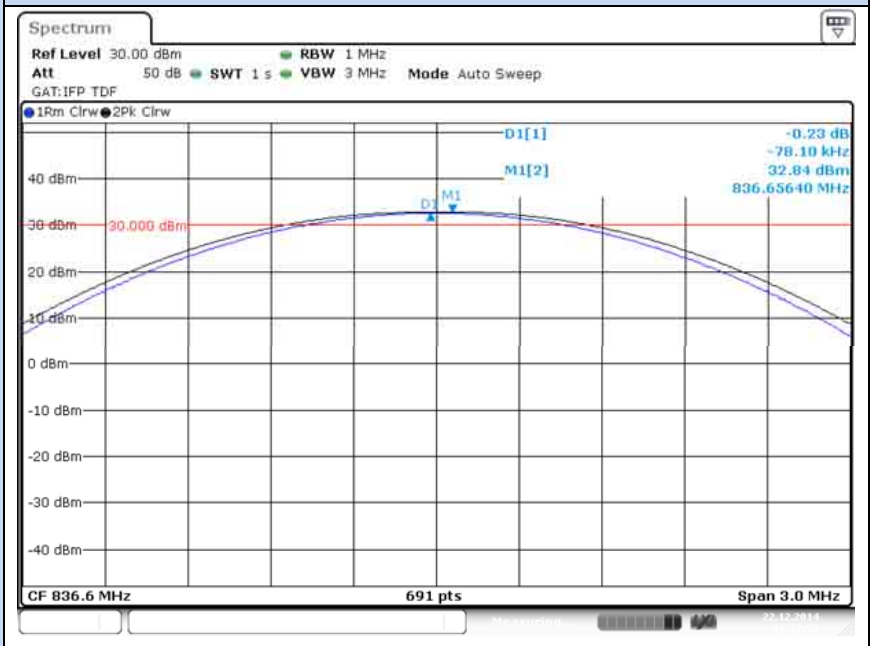
WCDMA

Band	Mode	Channel Number	Frequency [MHz]	Result [dB]
WCDMA Band II	RMC	9400	1880.0	2.80
	HSDPA			4.12
	HSUPA			5.53
WCDMA Band IV	RMC	1413	1732.6	2.96
	HSDPA			4.14
	HSUPA			6.73
WCDMA Band V	RMC	4183	836.6	1.64
	HSDPA			3.69
	HSUPA			5.67

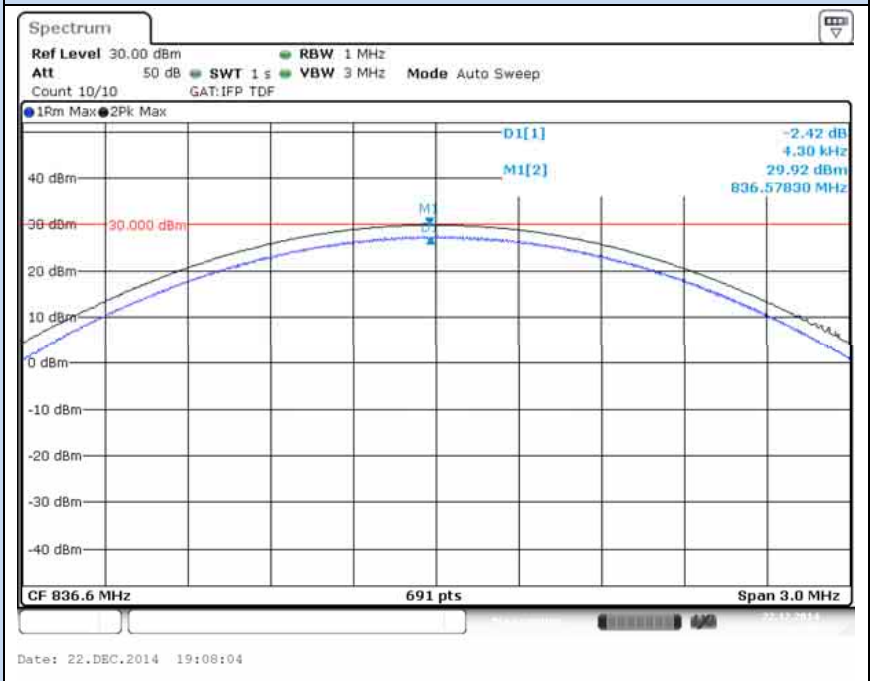
Results Screenshot

GSM 850

Peak to Average Power Ratio	**PAPR GSM850 GPRS GMSK Mid channel**

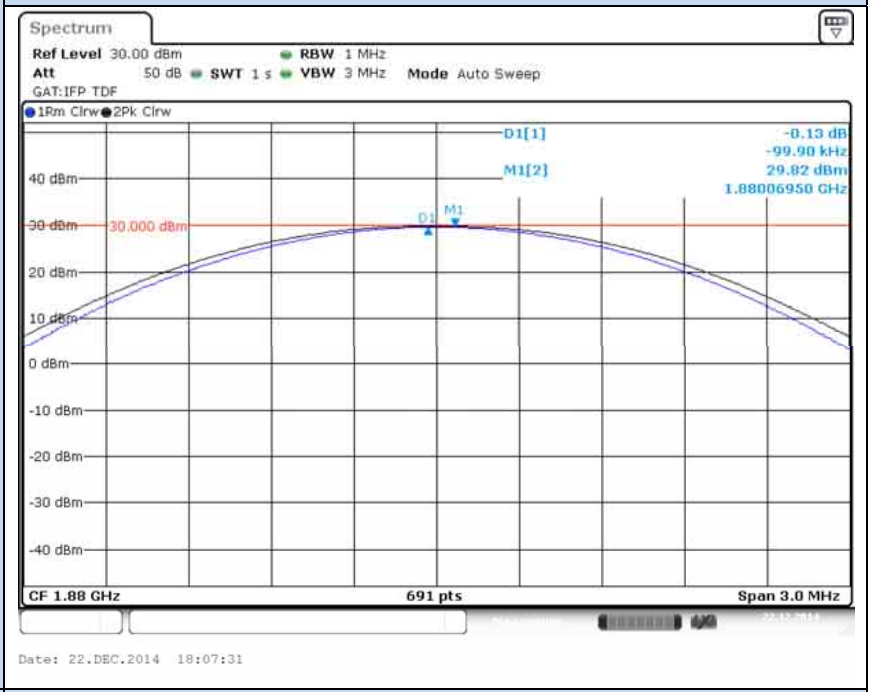


Peak to Average Power Ratio	**PAPR GSM850 EDGE 8PSK Mid channel**

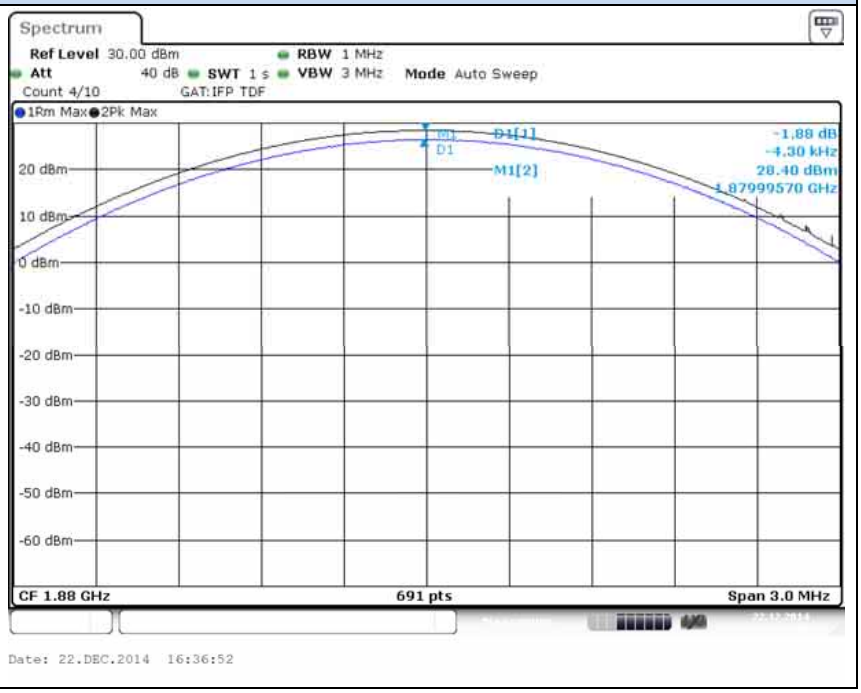


GSM 1900

Peak to Average Power Ratio	**PAPR GSM1900 GPRS GMSK Mid channel**



Peak to Average Power Ratio	**PAPR GSM1900 EDGE 8PSK Mid channel**



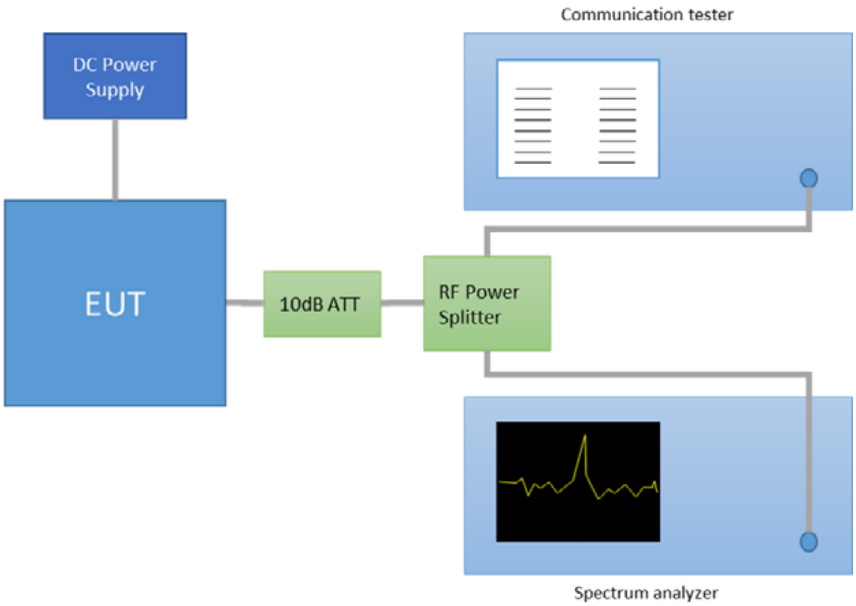
B.2.4 Conducted band-edge and spurious emission

Standard references

BAND	FCC part	RSS part	Limits
PCS 1900, WCDMA 2	2.1051, 24.238	133-ch6.5.1	The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.
WCDMA 4	2.1051, 27.53	139-ch.6.5, 199-ch.4.5	The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least 43 + 10 log10 (P) dB.
GSM 850, WCDMA 5	2.1051, 22.917	132-ch.5.5	The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.

Test procedure

The setup below was used to measure the band-edge and the conducted spurious. The antenna terminal of the EUT is connected to the spectrum analyzer and the communication tester through an attenuator and a power splitter. According to the standard reference, at 1 MHz immediately outside and adjacent to the authorized operating frequency range, a resolution bandwidth of at least 1% has been applied. The video bandwidth was set to three time the resolution bandwidth.



Band edge results

GSM850

Band	Channel	Channel Number	Frequency [MHz]	Modulation	#UL Slots	Result [dBm]	Frequency [MHz]
GSM850	Low	128	824.2	GMSK	1	-24.56	823.99
	High	251	848.8		1	-23.94	849.01
	Low	128	824.2	8PSK	2	-27.81	823.97
	High	251	848.8		2	-30.30	849.01
GSM1900	Low	512	1850.2	GMSK	1	-25.69	1850.00
	High	810	1909.8		1	-25.08	1910.01
	Low	512	1850.2	8PSK	2	-28.32	1849.99
	High	810	1909.8		2	-27.28	1910.00

WCDMA

Band	Mode	Channel	Channel Number	Frequency [MHz]	Result [dBm]	Frequency [MHz]
WCDMA Band II	RMC	Low	9262	1852.4	-15.59	1850.00
		High	9538	1907.6	-14.13	1910.00
WCDMA Band IV	RMC	Low	1312	1712.4	-21.44	1710.00
		High	1513	1752.6	-18.53	1755.00
WCDMA Band V	RMC	Low	4132	826.4	-19.11	824.00
		High	4233	846.6	-16.22	849.00

Spurious emissions results

Band	Mode	Range Freq	Channel	Max Level [dBm]
GSM850	GPRS	30MHz-10GHz	Low, Mid, High	-31.04
	EDGE			-31.61
GSM1900	GPRS	30MHz-20GHz		-17.67
	EDGE			-18.08

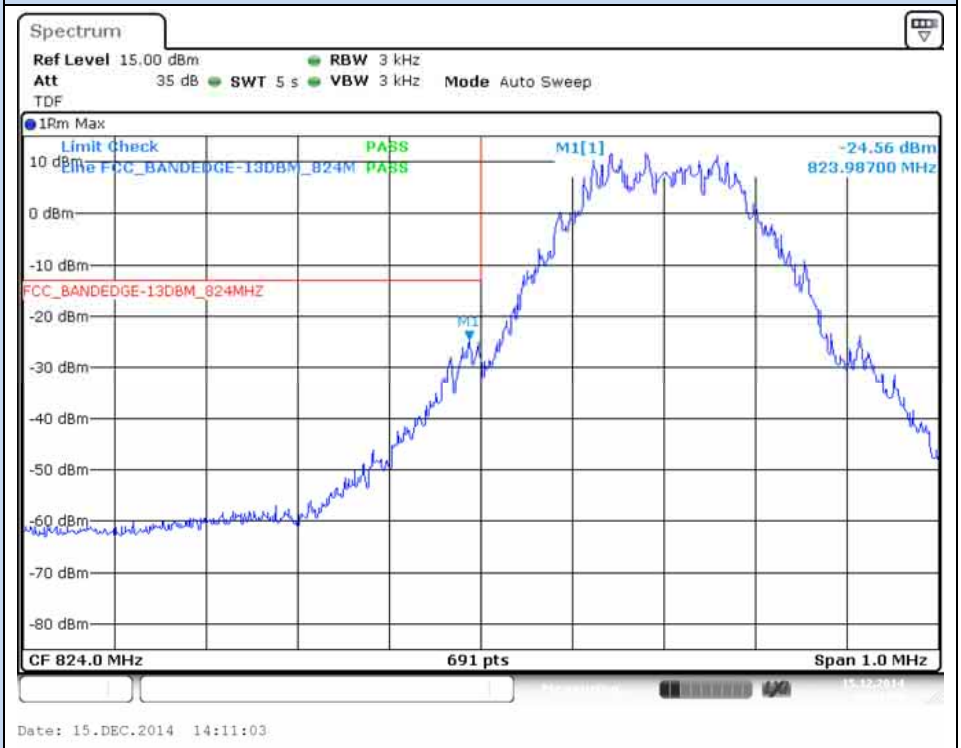
Band	Mode	Range Freq	Channel	Max Level [dBm]
WCDMA Band 2	REL99, Rel.5 HSDPA, Rel.6 HSUPA	30MHz-20GHz	Low, Mid, High	-18.52
WCDMA Band 4		30MHz-20GHz		-18.46
WCDMA Band 5		30MHz-10GHz		-31.72

Band-edge emission screenshot results

GSM 850

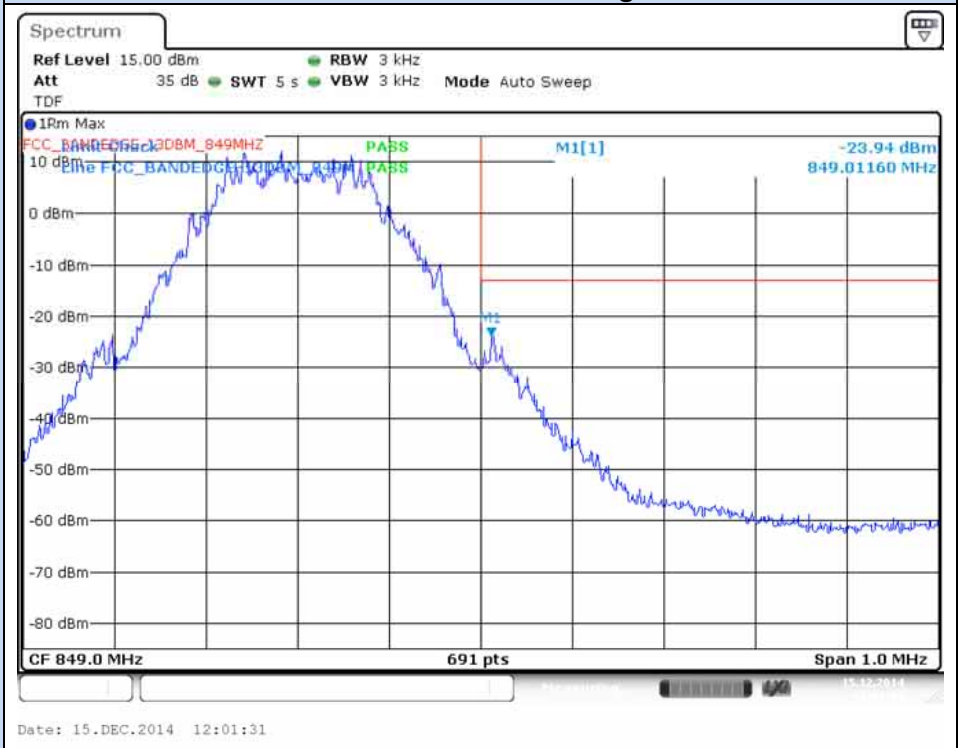
Band Edge

GSM850 GPRS GMSK 824.2MHz Low channel 128

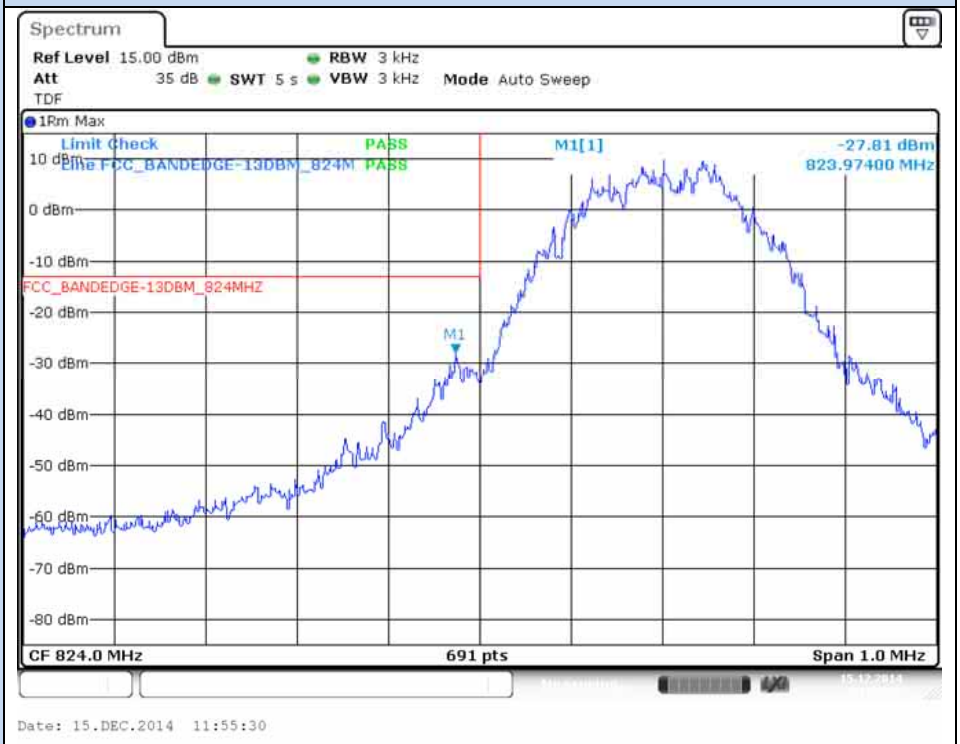


Band Edge

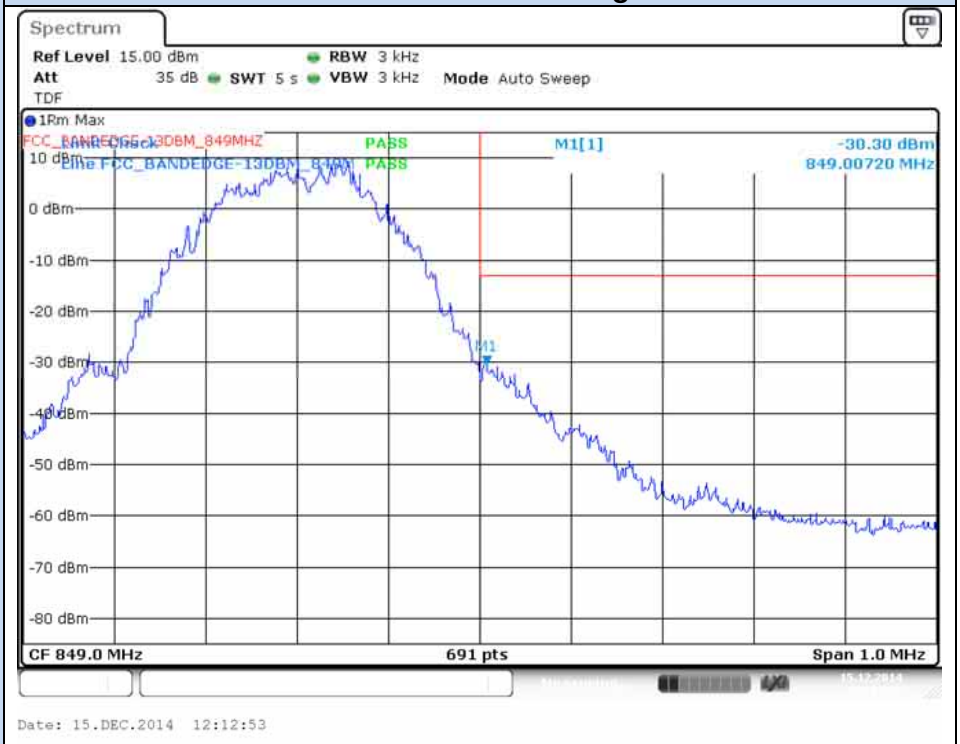
GSM850 GPRS GMSK 848.8MHz High channel 251



Band Edge	**GSM850 EDGE 8PSK 824.2MHz Low channel 128**



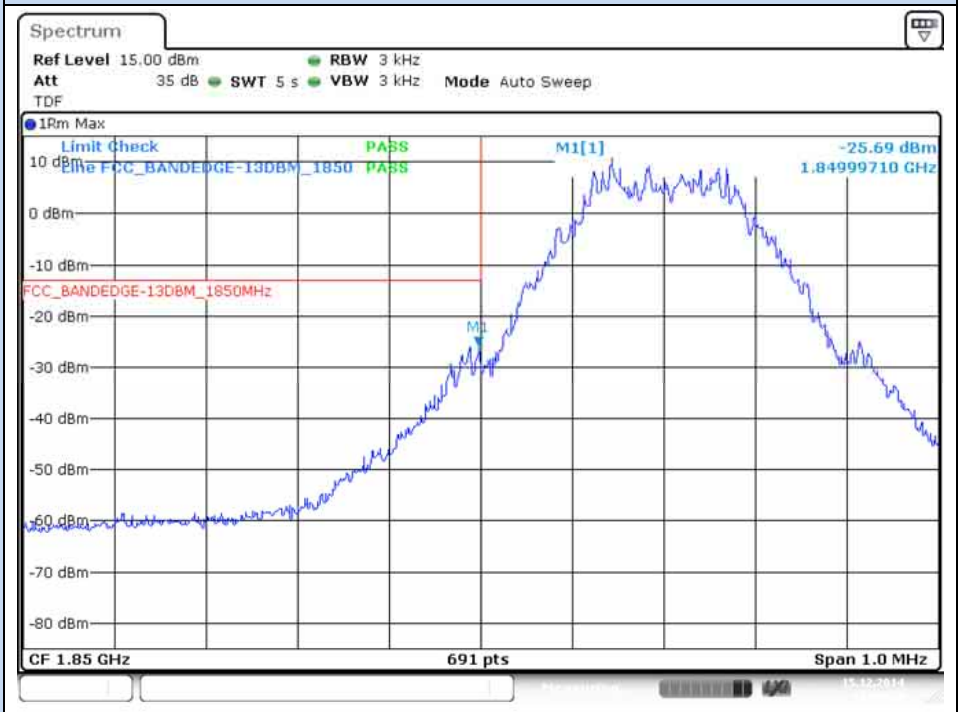
Band Edge	**GSM850 EDGE 8PSK 848.8MHz High channel 251**



GSM 1900

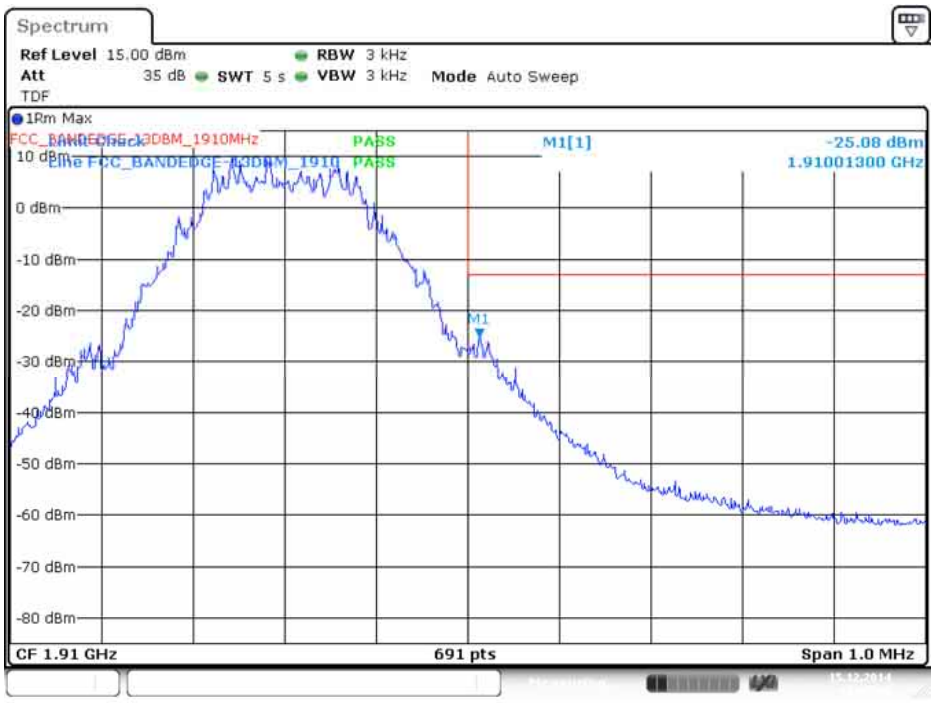
Band Edge

GSM1900 GPRS GMSK 1850.2MHz Low channel 512

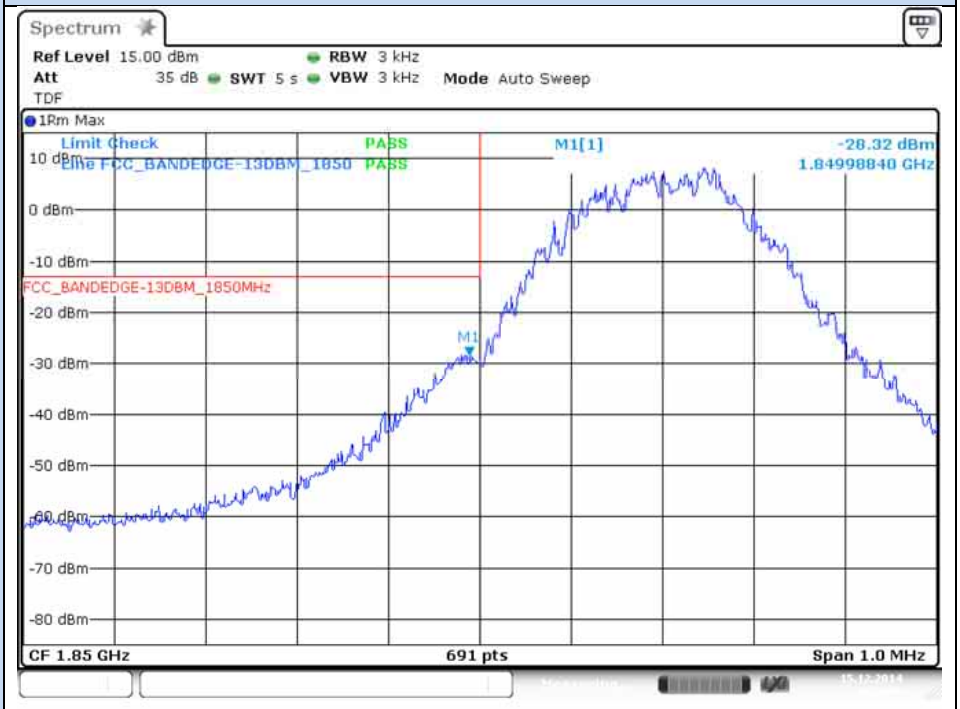


Band Edge

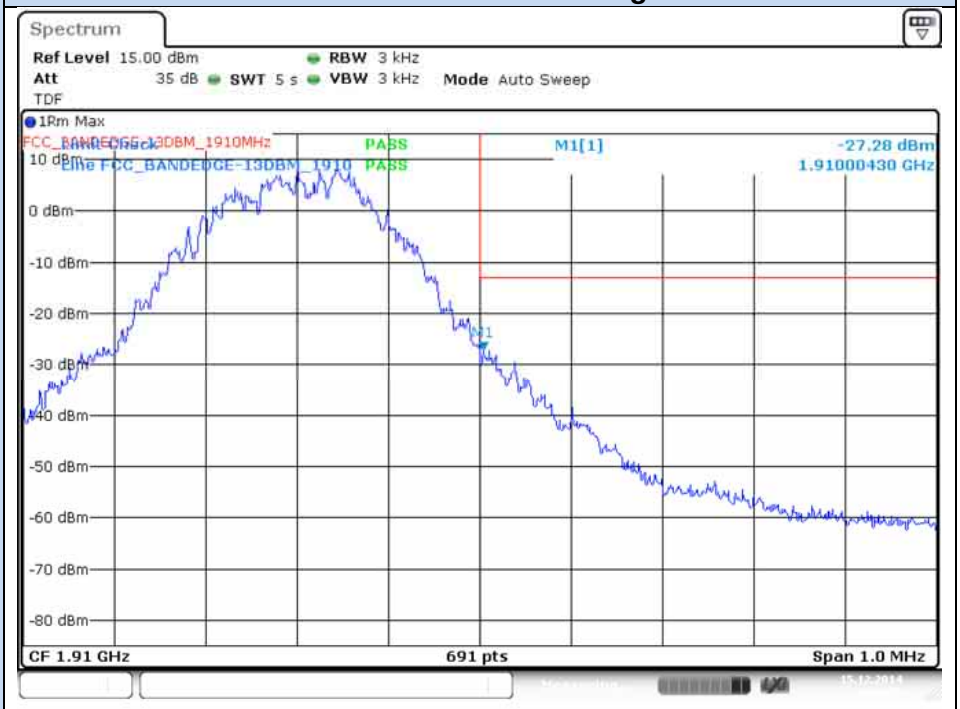
GSM1900 GPRS GMSK 1909.8MHz High channel 810



Band Edge	**GSM1900 EDGE 8PSK 1850.2MHz Low channel 512**



Band Edge	**GSM1900 EDGE 8PSK 1909.8MHz High channel 810**



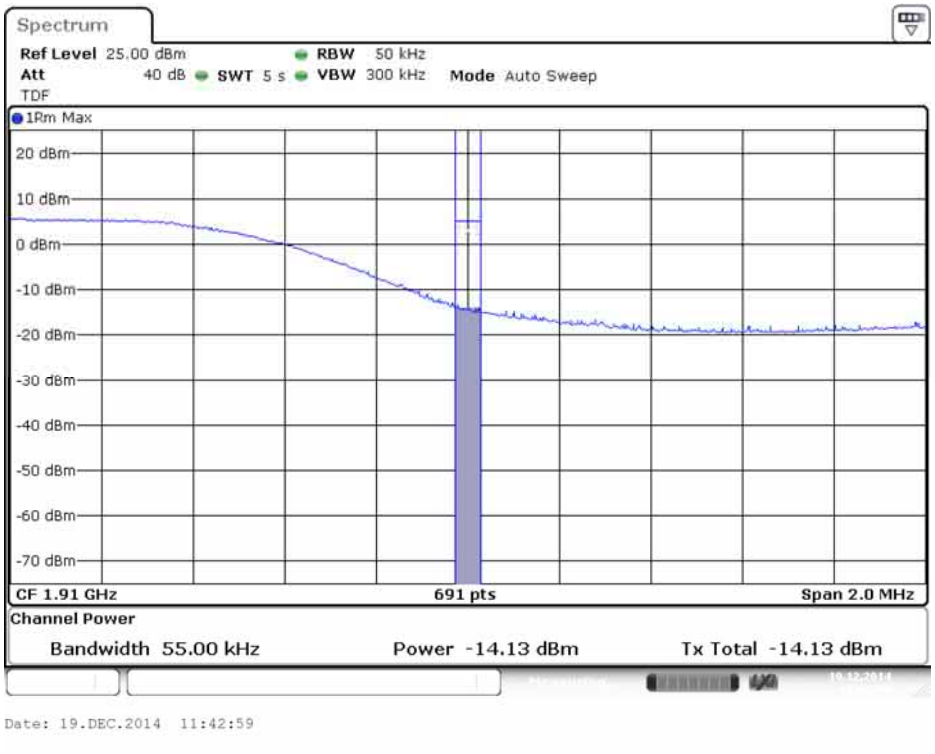
WCDMA Band II

Band Edge

WCDMA Band II RMC 1852.4MHz Low channel 9262 12.2kbps

Band Edge

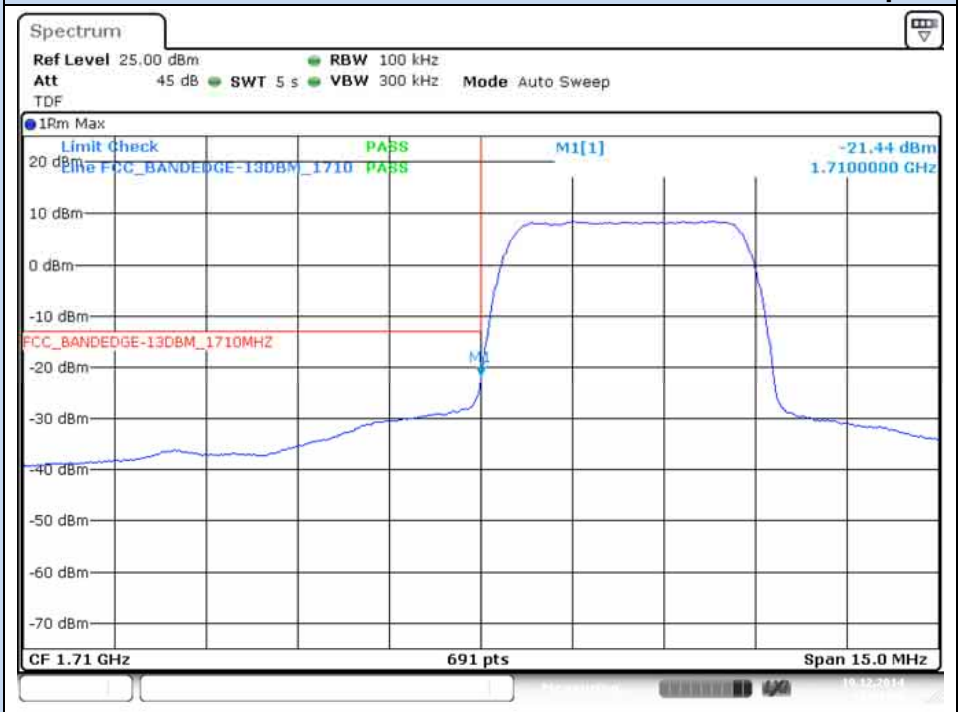
WCDMA Band II RMC 1907.6MHz High channel 9538 12.2kbps



WCDMA Band IV

Band Edge

WCDMA Band IV RMC 1712.4MHz Low channel 1312 12.2kbps



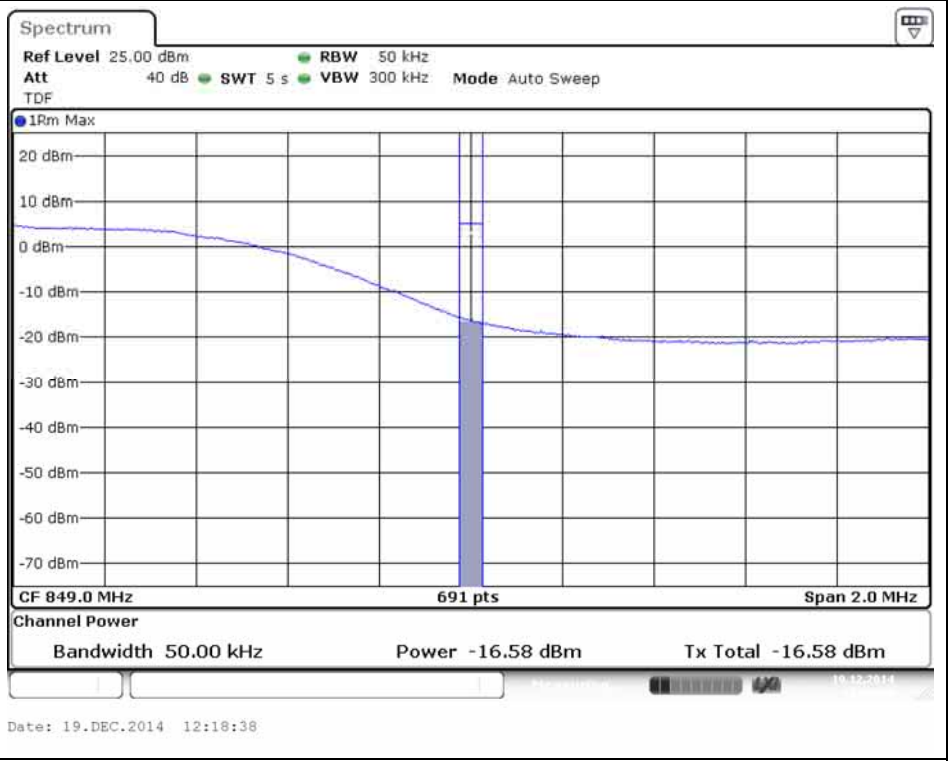
Band Edge

WCDMA Band IV RMC 1752.6MHz High channel 1513 12.2kbps

WCDMA Band V

Band Edge	**WCDMA Band V RMC 826.4MHz Low channel 4132 12.2kbps**

Band Edge	**WCDMA Band V RMC 846.6MHz High channel 4233 12.2kbps**

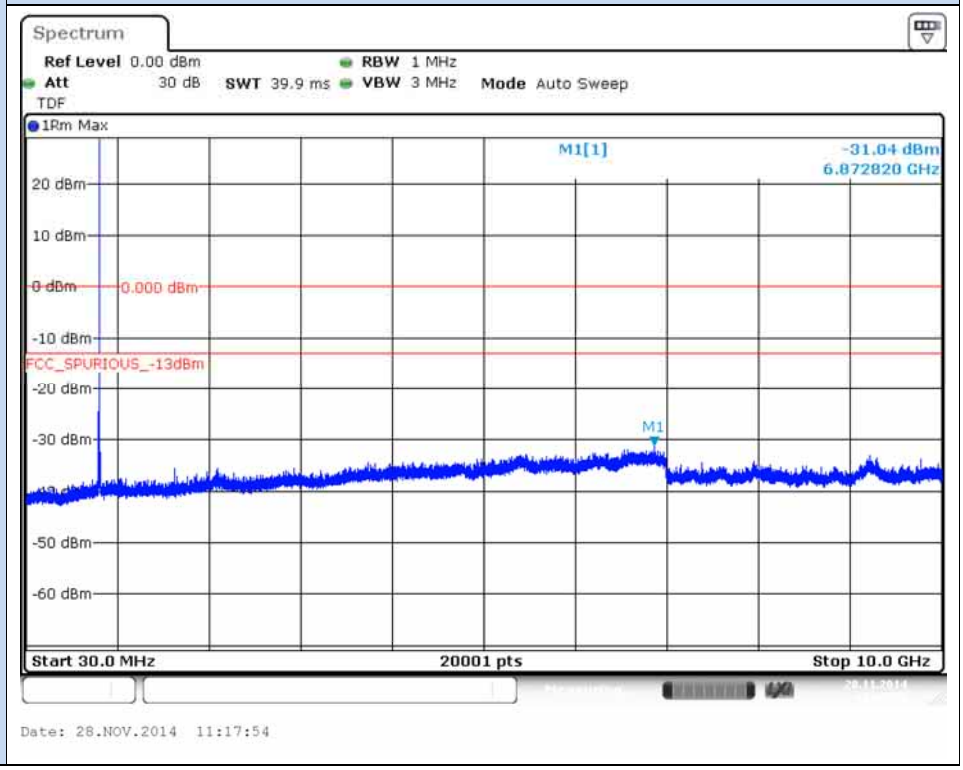


Spurious emission results

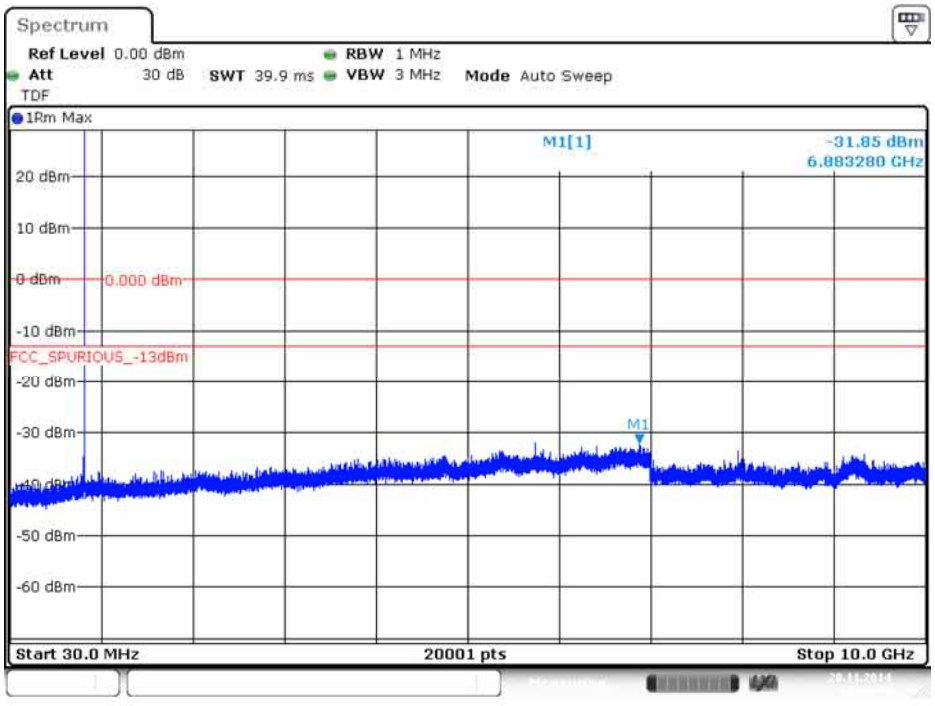
GSM 850

Spurious Emission 30MHz to 10GHz

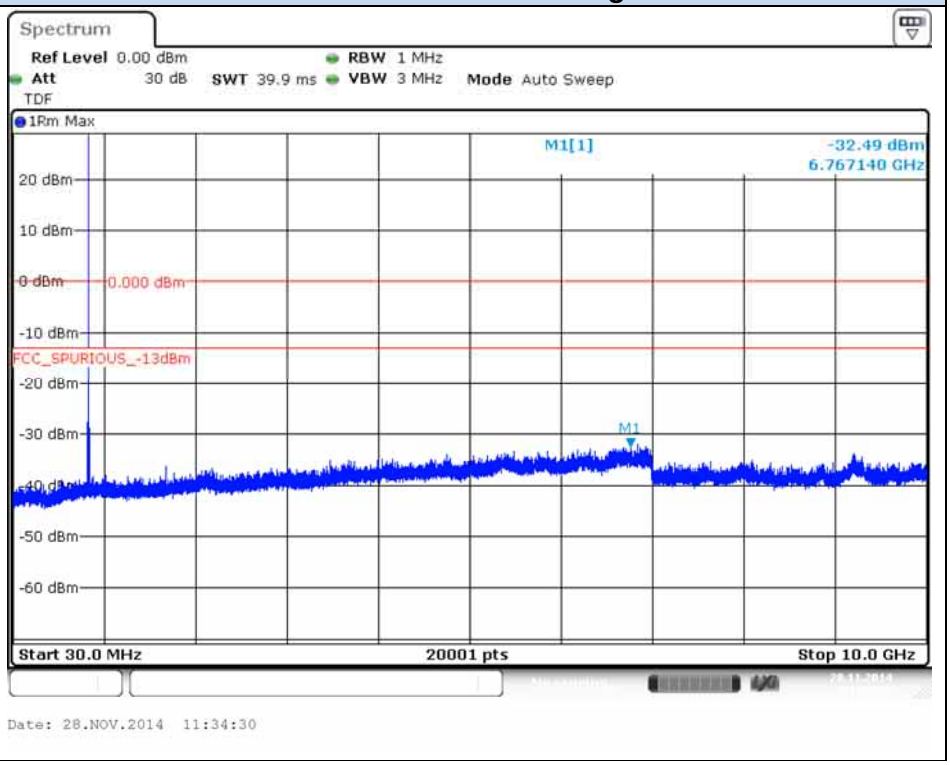
GSM850 GPRS GMSK 824.2MHz Low channel 128



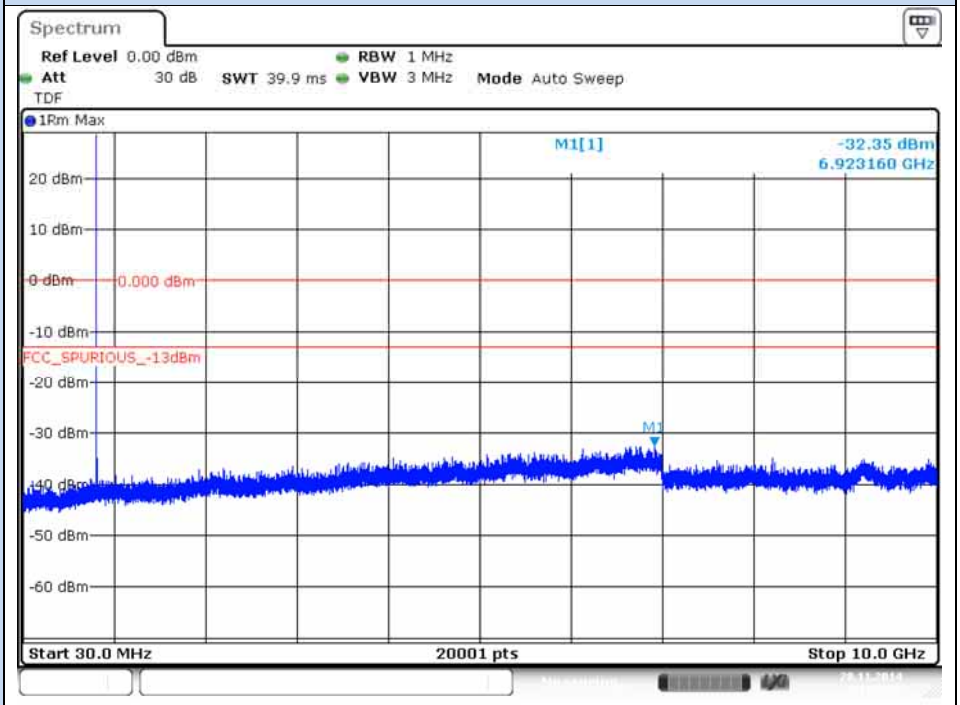
Spurious Emission 30MHz to 10GHz	GSM850 GPRS GMSK 836.6MHz Mid channel 190



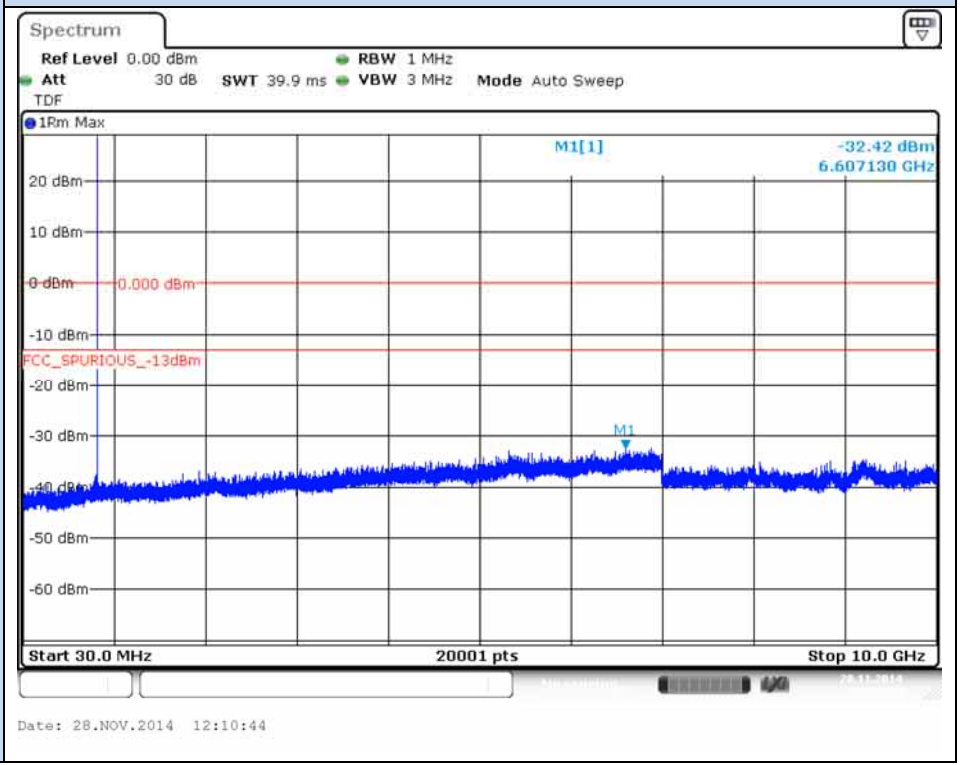
Spurious Emission 30MHz to 10GHz	GSM850 GPRS GMSK 848.8MHz High channel 251



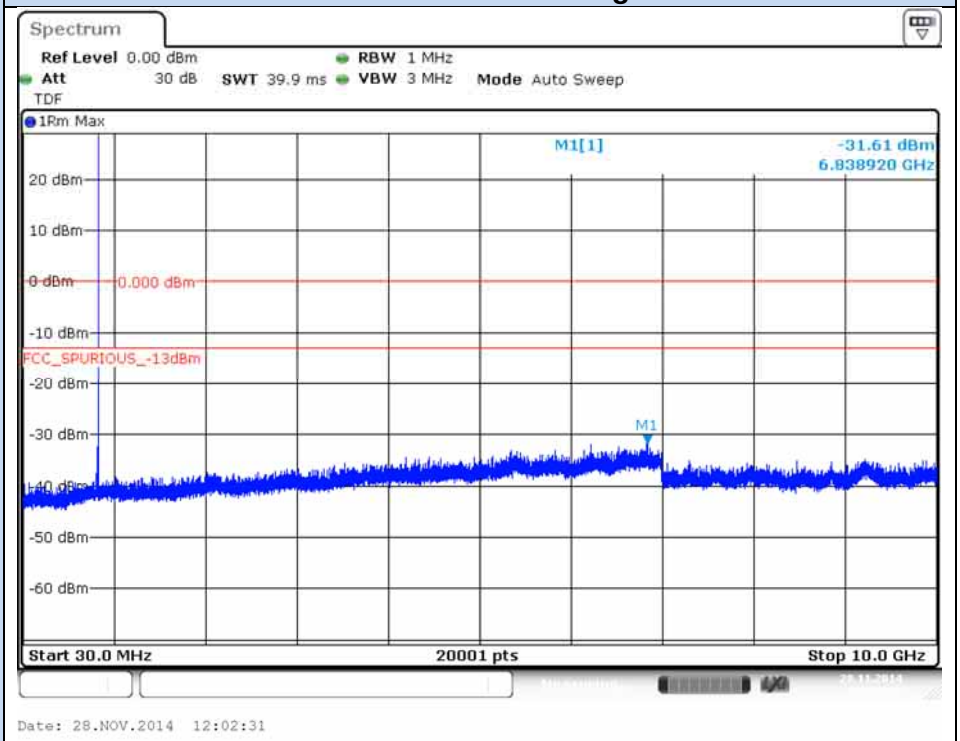
Spurious Emission 30MHz to 10GHz	GSM850 EDGE 8PSK 824.2MHz Low channel 128



Spurious Emission 30MHz to 10GHz	GSM850 EDGE 8PSK 836.6MHz Mid channel 190



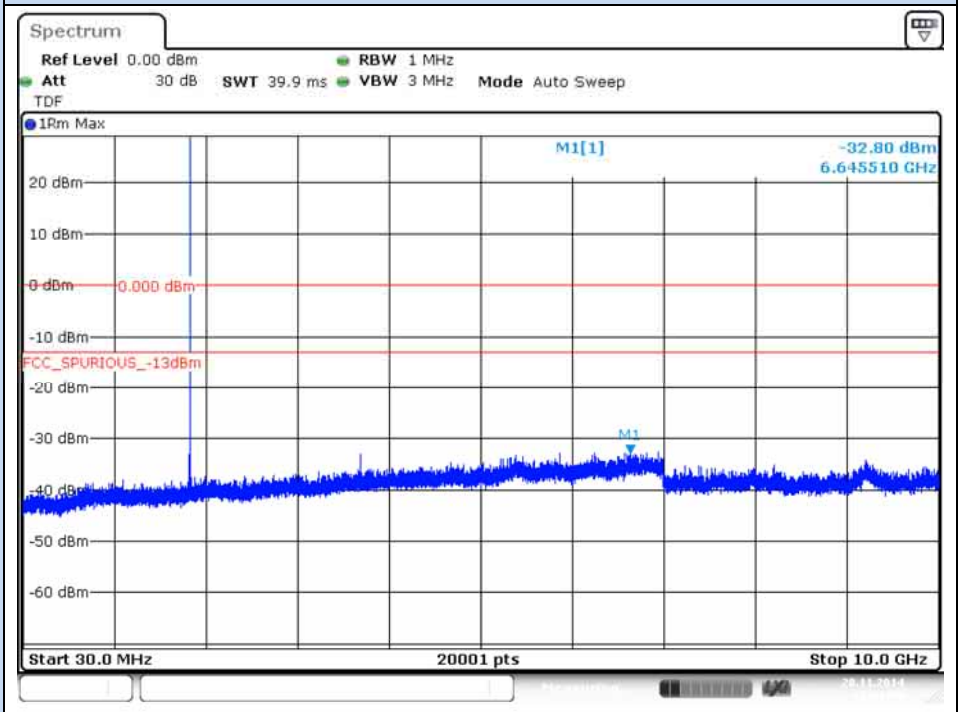
Spurious Emission 30MHz to 10GHz	GSM850 EDGE 8PSK 848.8MHz High channel 251



GSM 1900

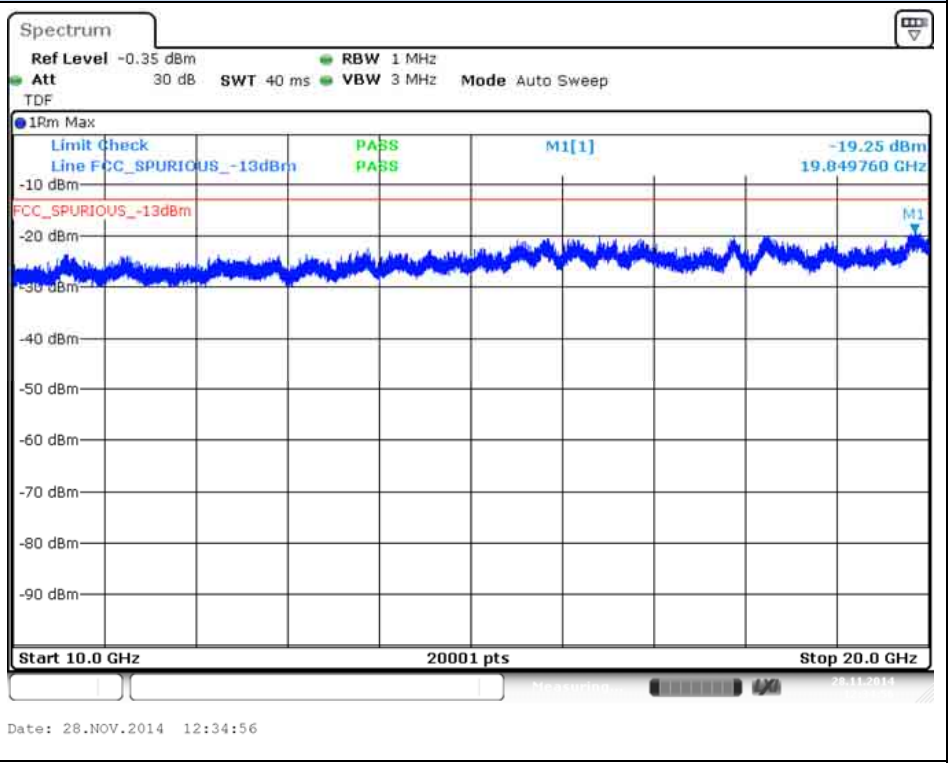
Spurious Emission 30MHz to 10GHz

GSM1900 GPRS GMSK 1850.2MHz Low channel 512

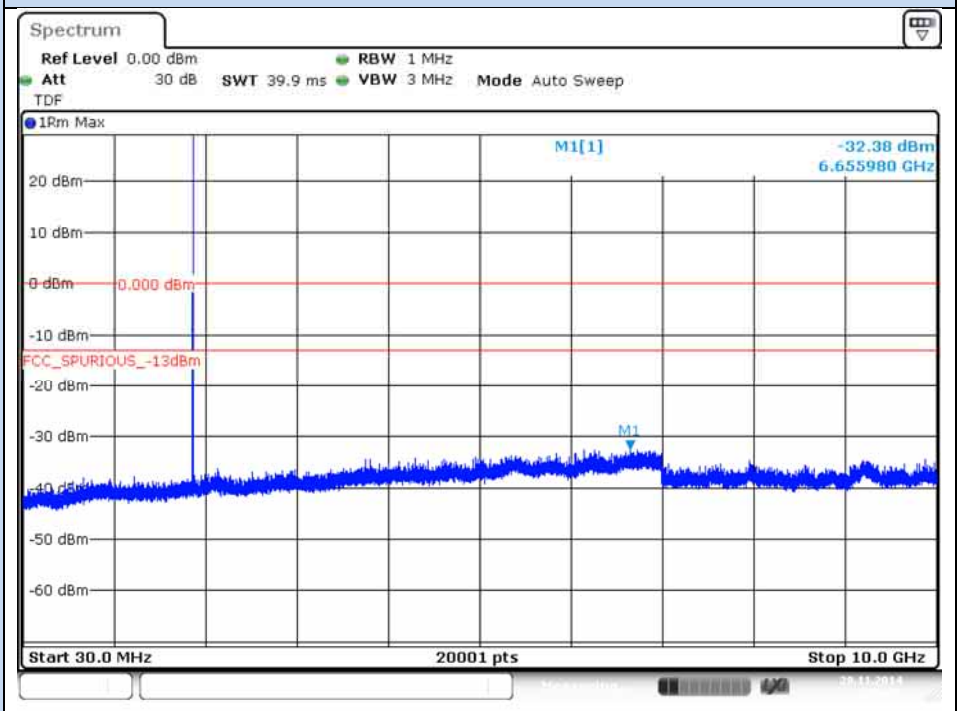


Spurious Emission 10GHz to 20GHz

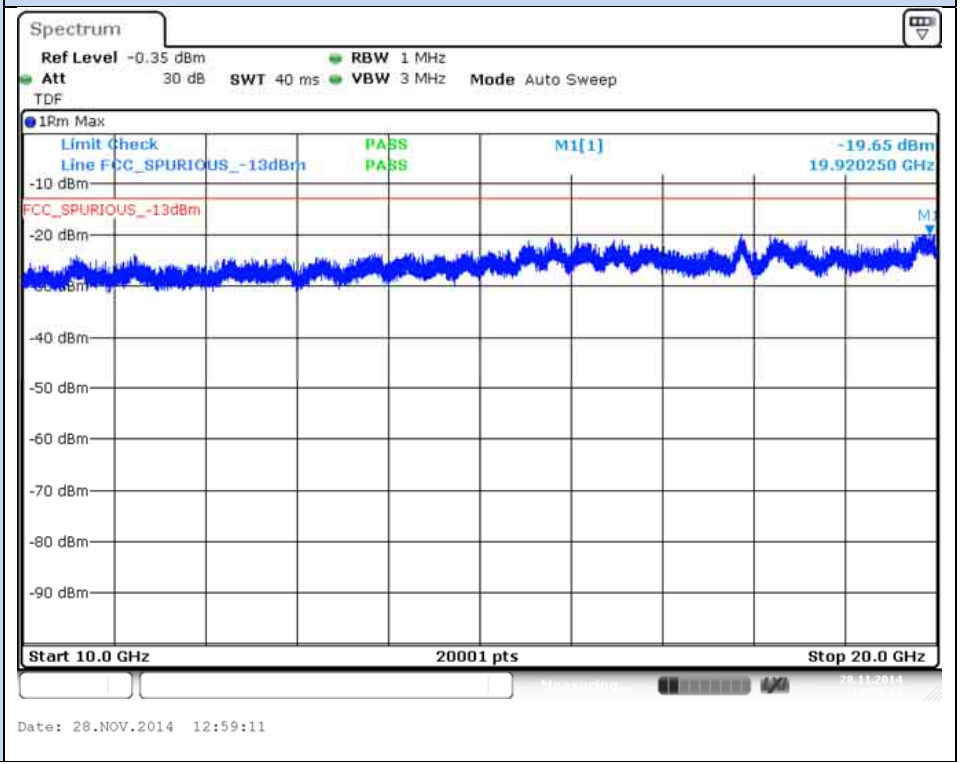
GSM1900 GPRS GMSK 1850.2MHz Low channel 512



Spurious Emission 30MHz to 10GHz	**GSM1900 GPRS GMSK 1880MHz Mid channel 661**

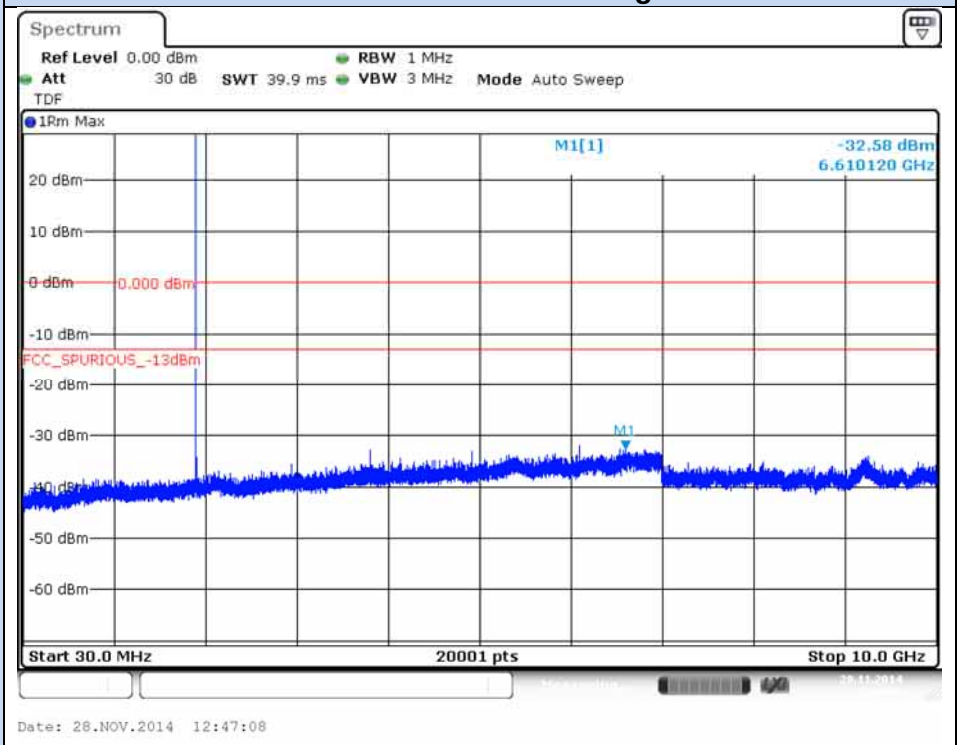


Spurious Emission 10GHz to 20GHz	**GSM1900 GPRS GMSK 1880MHz Mid channel 661**



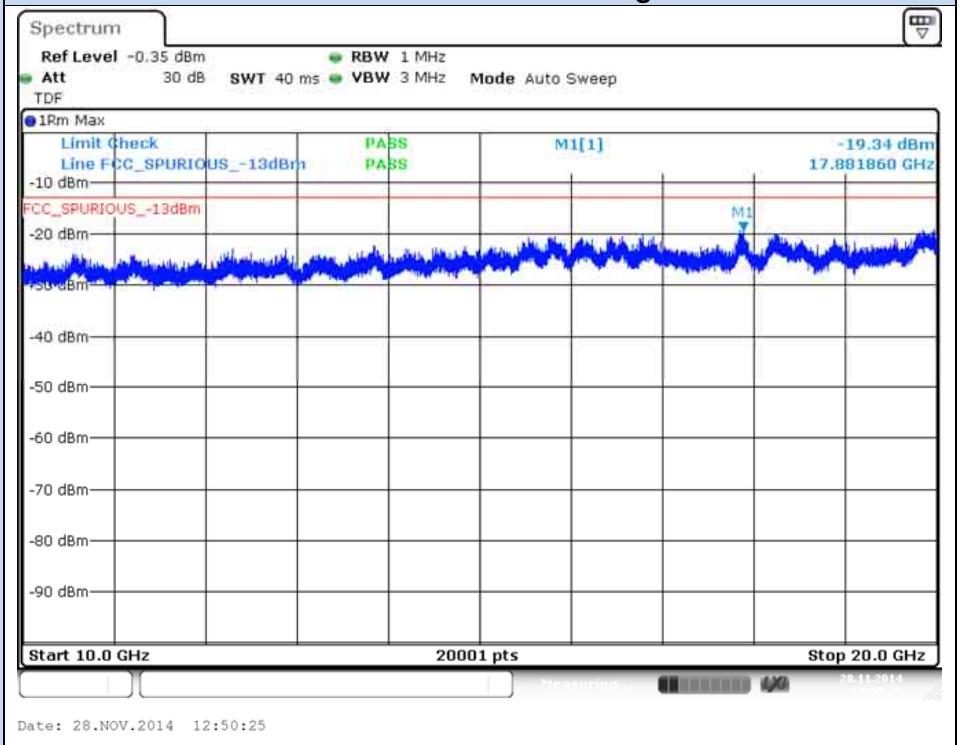
Spurious Emission 30MHz to 10GHz

GSM1900 GPRS GMSK 1909.8MHz High channel 810

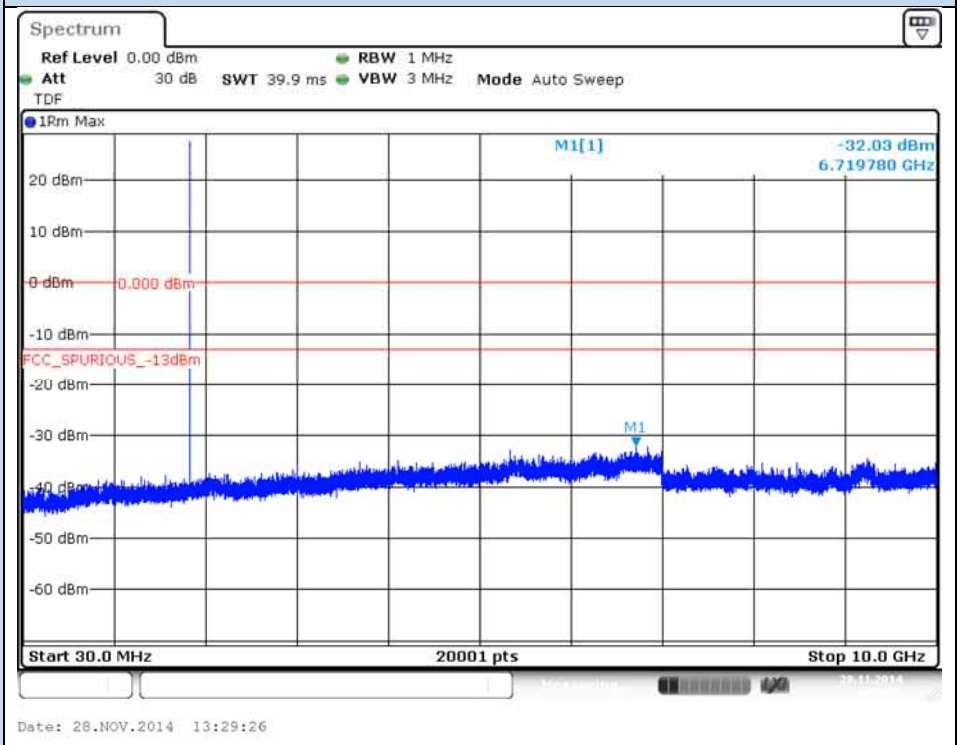


Spurious Emission 10GHz to 20GHz

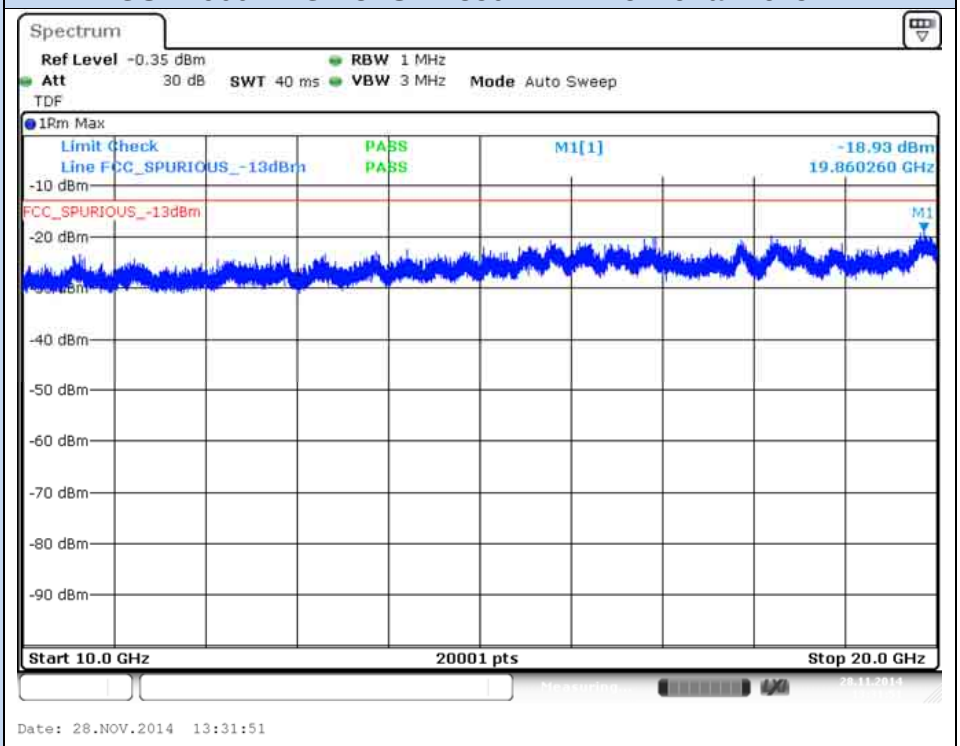
GSM1900 GPRS GMSK 1909.8MHz High channel 810



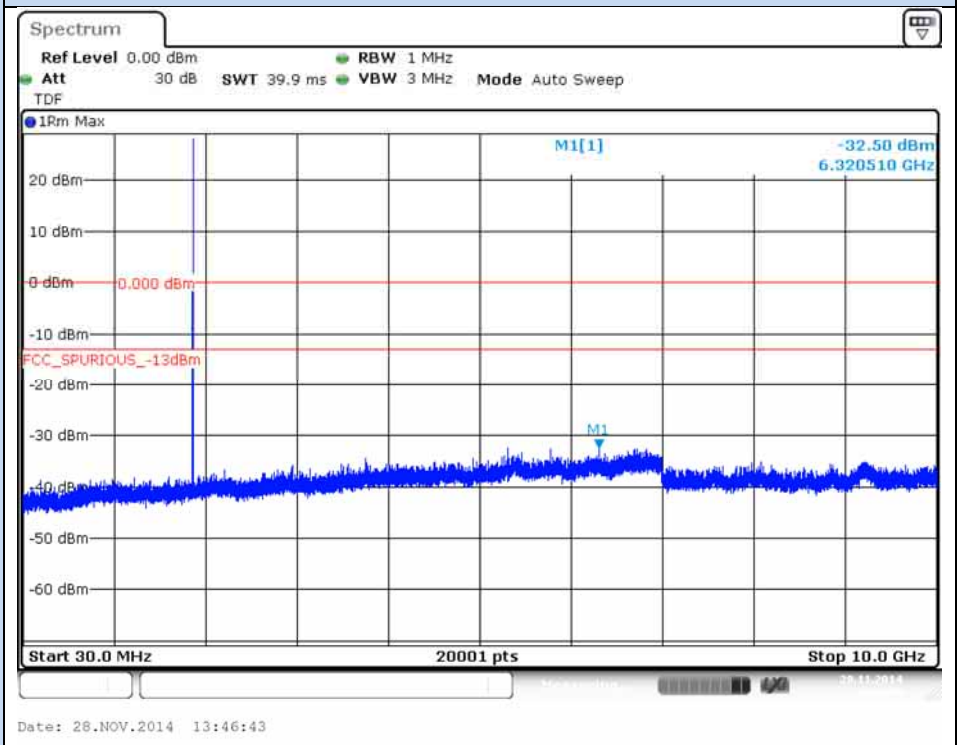
Spurious Emission 30MHz to 10GHz	**GSM1900 EDGE 8PSK 1850.2MHz Low channel 512**



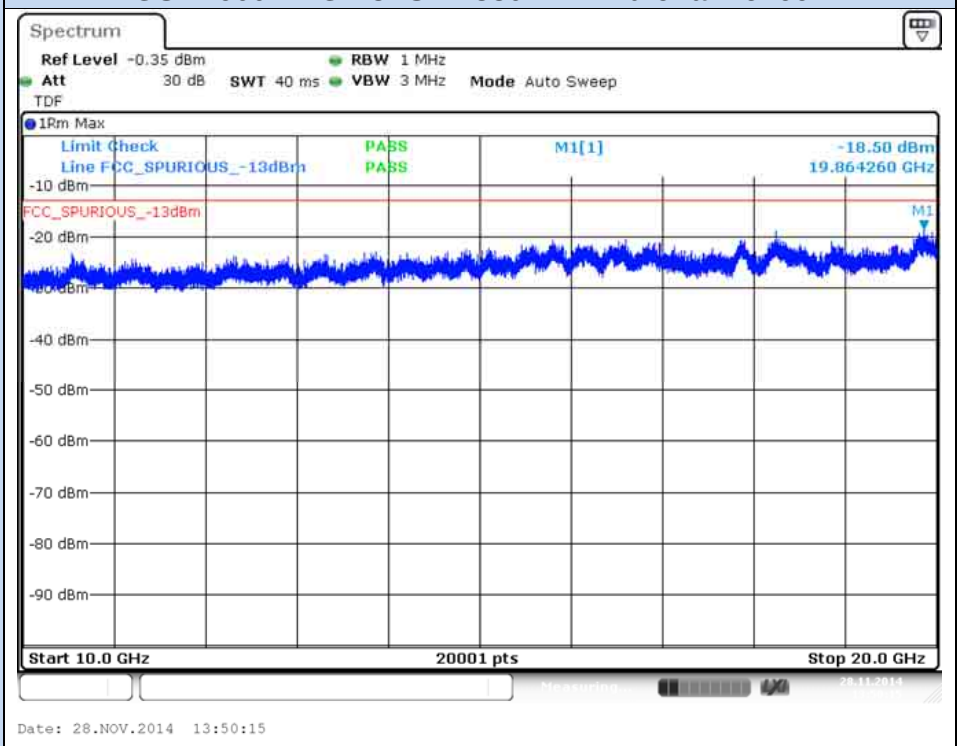
Spurious Emission 10GHz to 20GHz	**GSM1900 EDGE 8PSK 1850.2MHz Low channel 512**



Spurious Emission 30MHz to 10GHz	**GSM1900 EDGE 8PSK 1880MHz Mid channel 661**

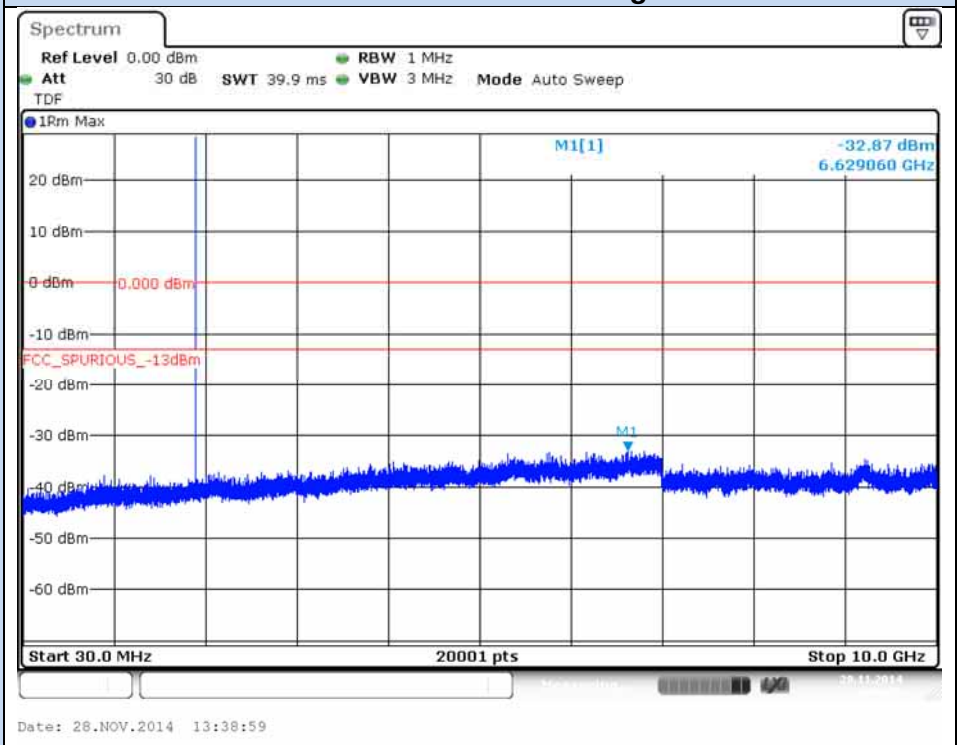


Spurious Emission 10GHz to 20GHz	**GSM1900 EDGE 8PSK 1880MHz Mid channel 661**



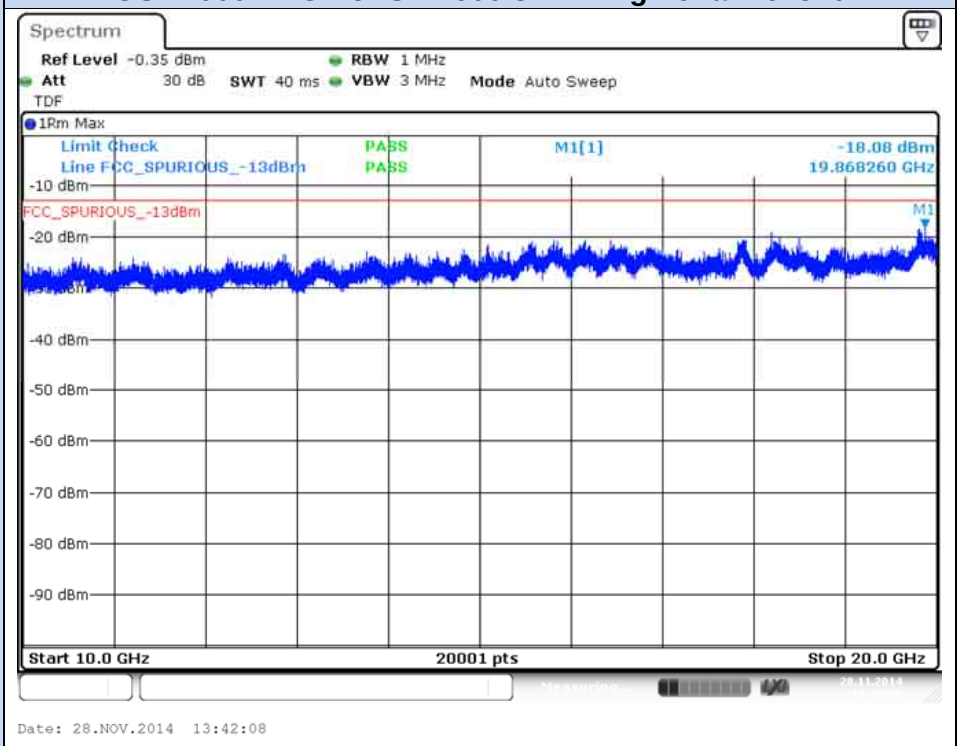
Spurious Emission 30MHz to 10GHz

GSM1900 EDGE 8PSK 1909.8MHz High channel 810



Spurious Emission 10GHz to 20GHz

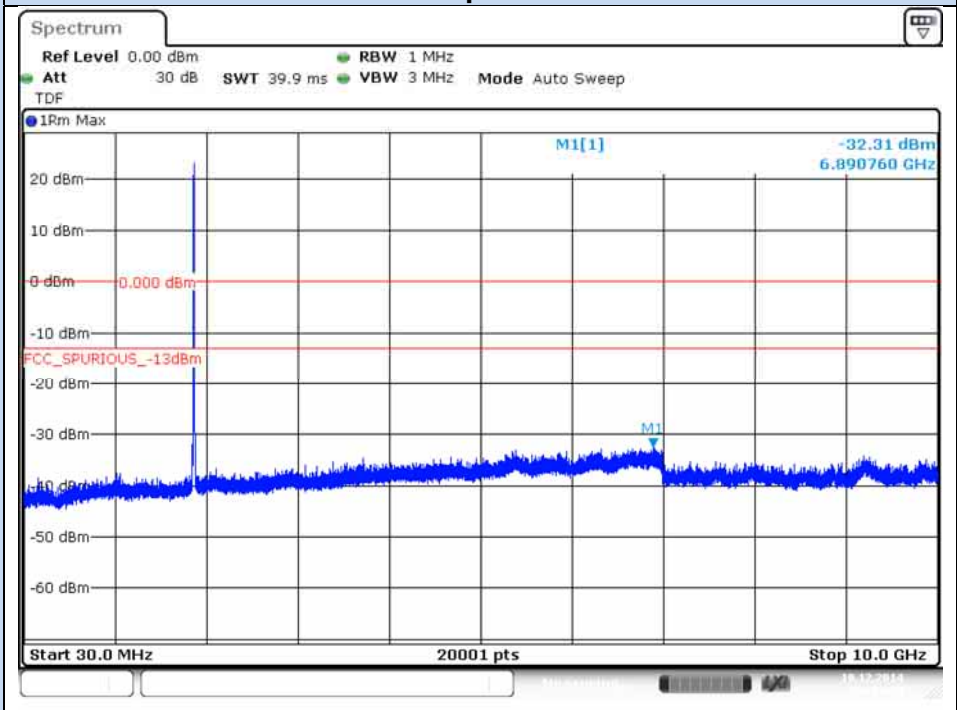
GSM1900 EDGE 8PSK 1909.8MHz High channel 810



WCDMA Band II

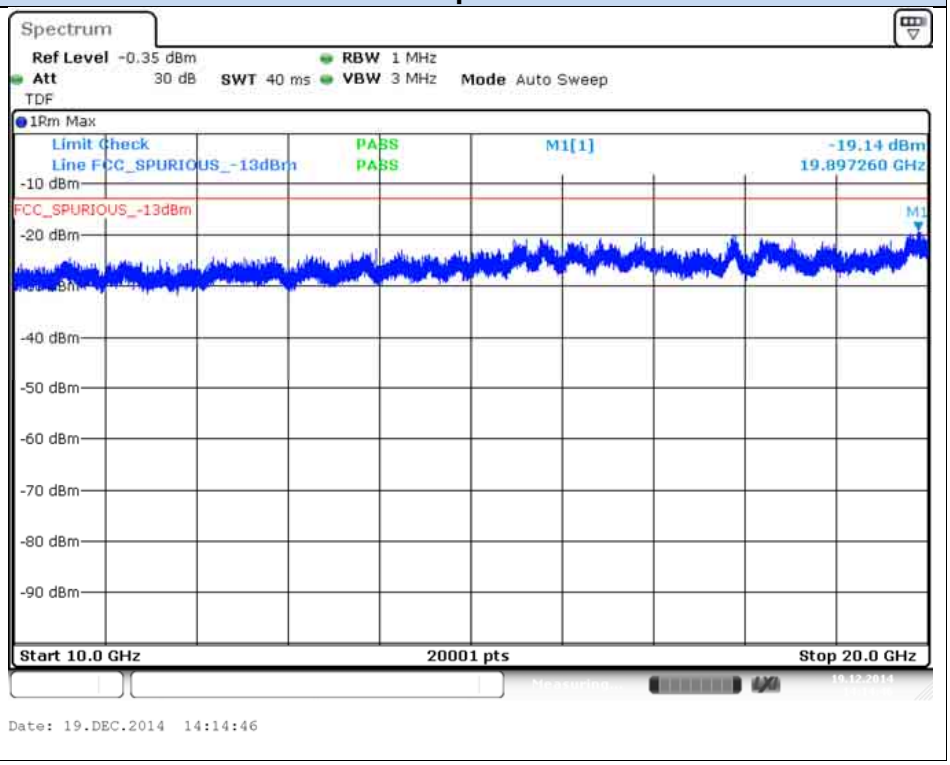
Spurious Emission 30MHz to 10GHz

WCDMA Band II RMC12.2kbps 1880MHz Mid channel 9400

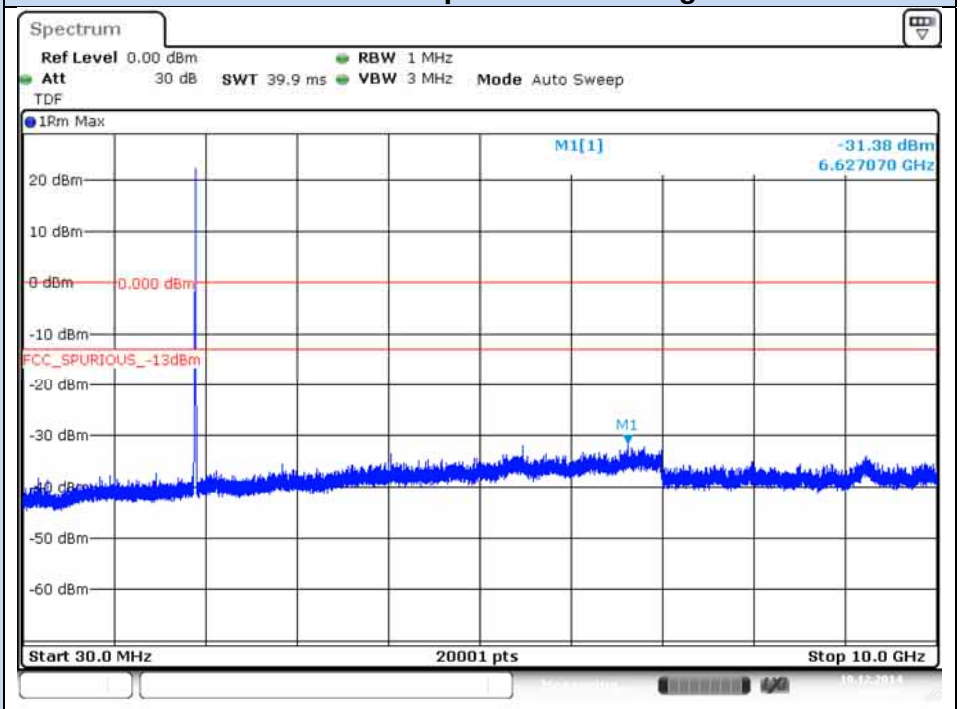


Spurious Emission 10GHz to 20GHz

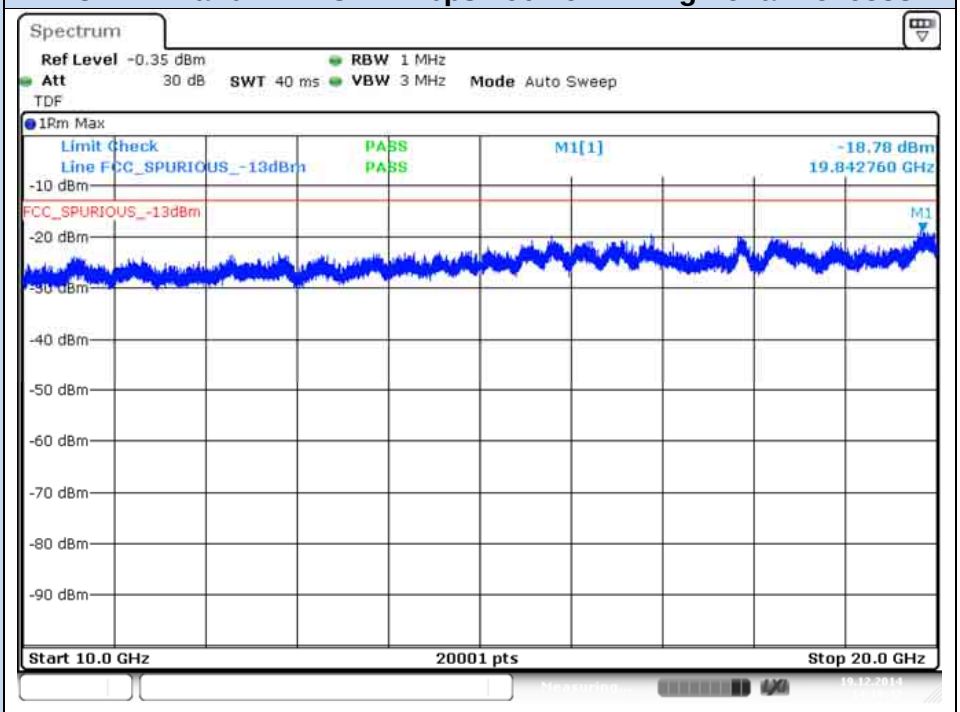
WCDMA Band II RMC12.2kbps 1880MHz Mid channel 9400



Spurious Emission 30MHz to 10GHz	**WCDMA Band II RMC12.2kbps 1907.6MHz High channel 9538**



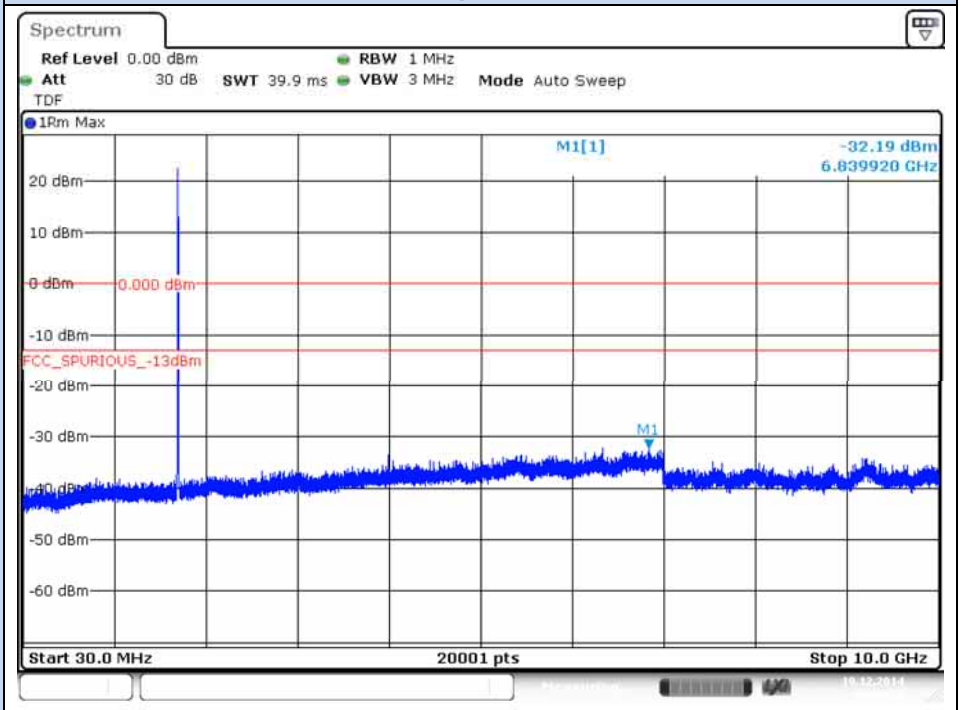
Spurious Emission 10GHz to 20GHz	**WCDMA Band II RMC12.2kbps 1907.6MHz High channel 9538**



WCDMA Band IV

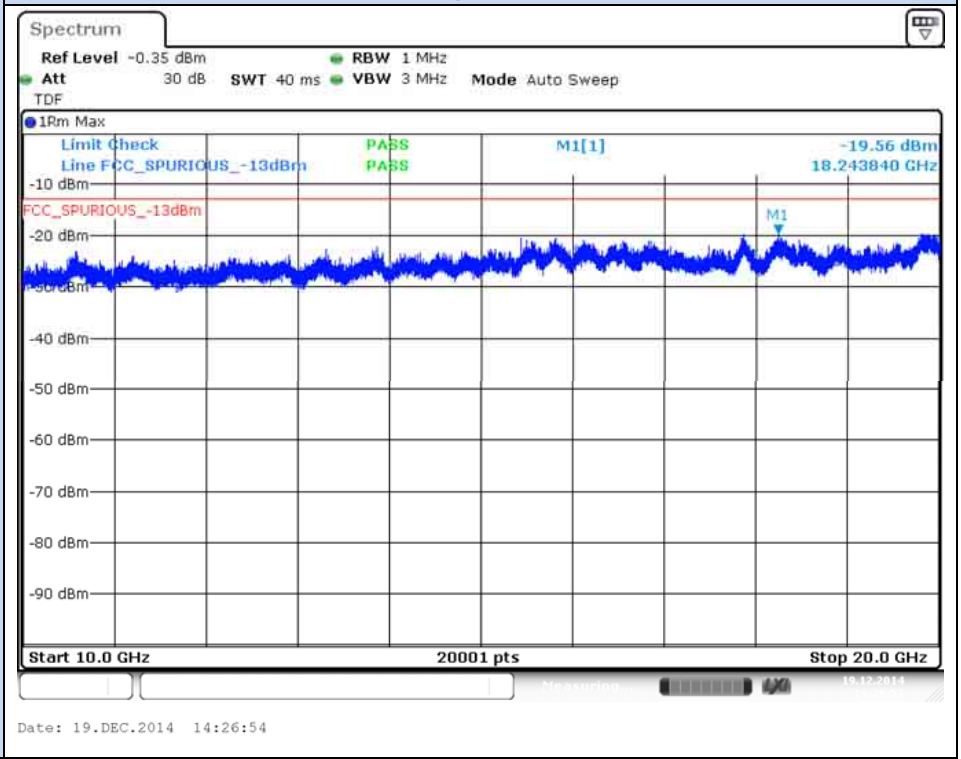
Spurious Emission 30MHz to 10GHz

WCDMA Band IV RMC12.2kbps 1732.6MHz Mid channel 1413

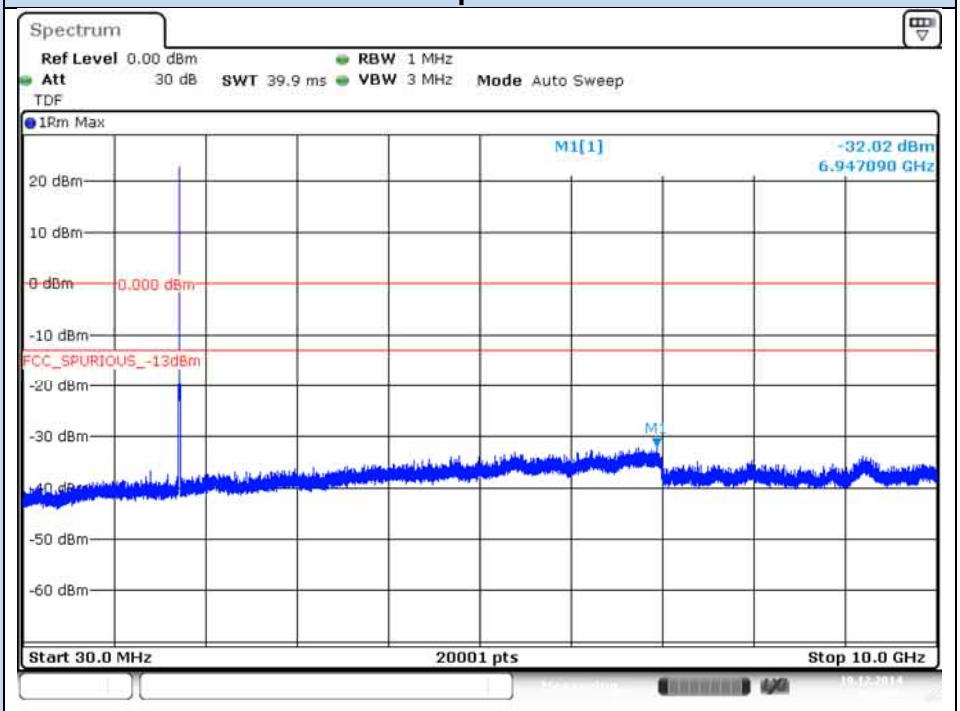


Spurious Emission 10GHz to 20GHz

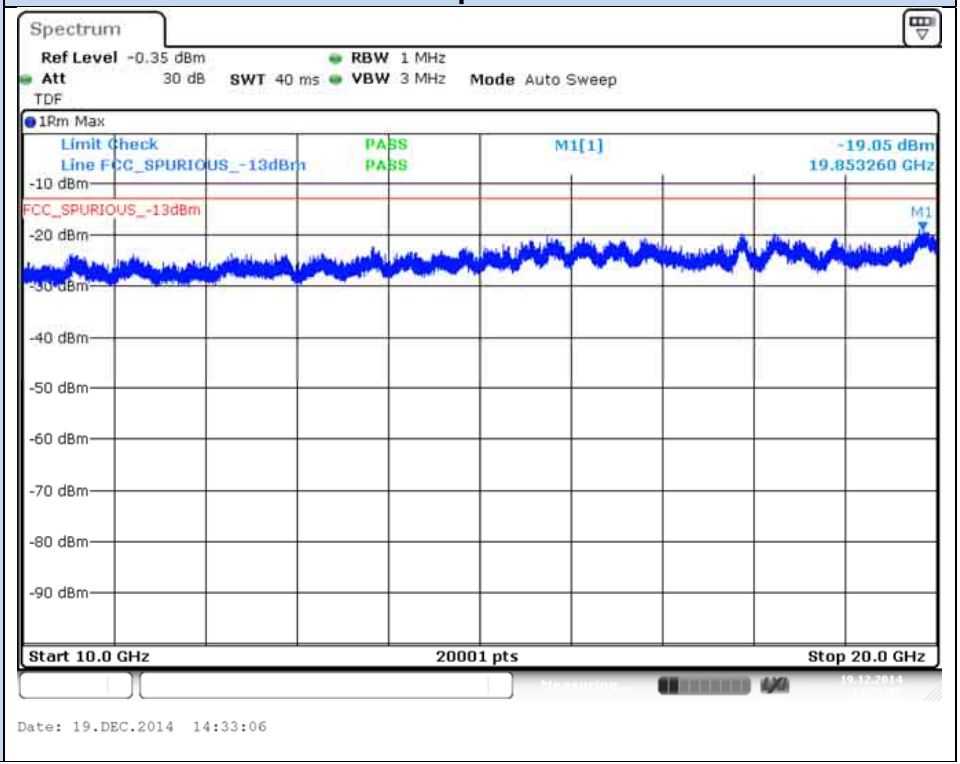
WCDMA Band IV RMC12.2kbps 1712.4MHz Low channel 1312



Spurious Emission 30MHz to 10GHz	**WCDMA Band IV RMC12.2kbps 1732.6MHz Mid channel 1413**

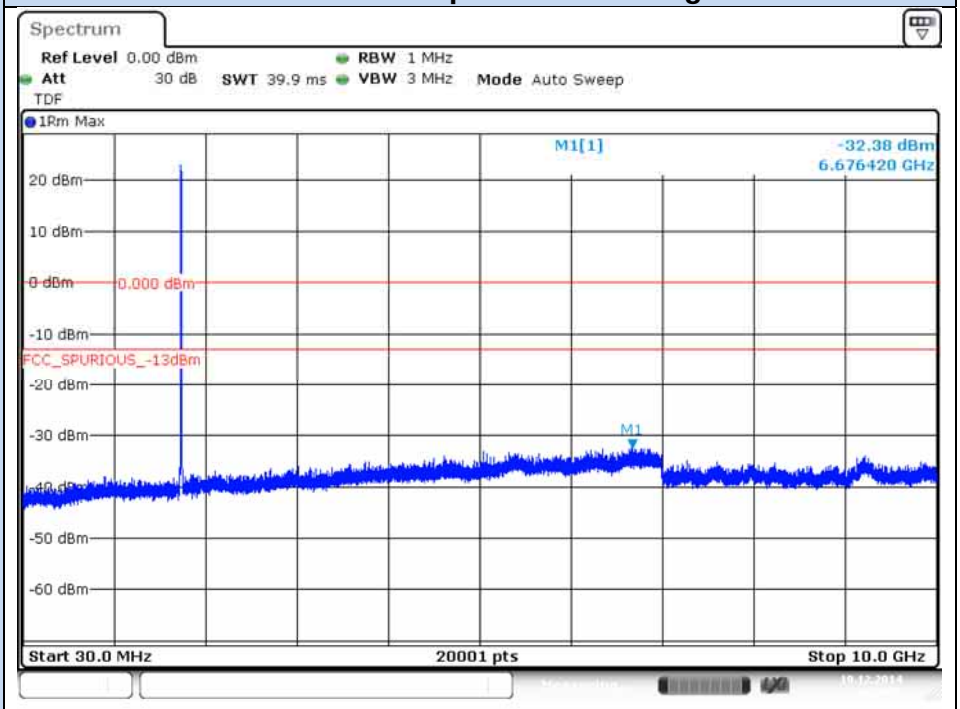


Spurious Emission 10GHz to 20GHz	**WCDMA Band IV RMC12.2kbps 1732.6MHz Mid channel 1413**



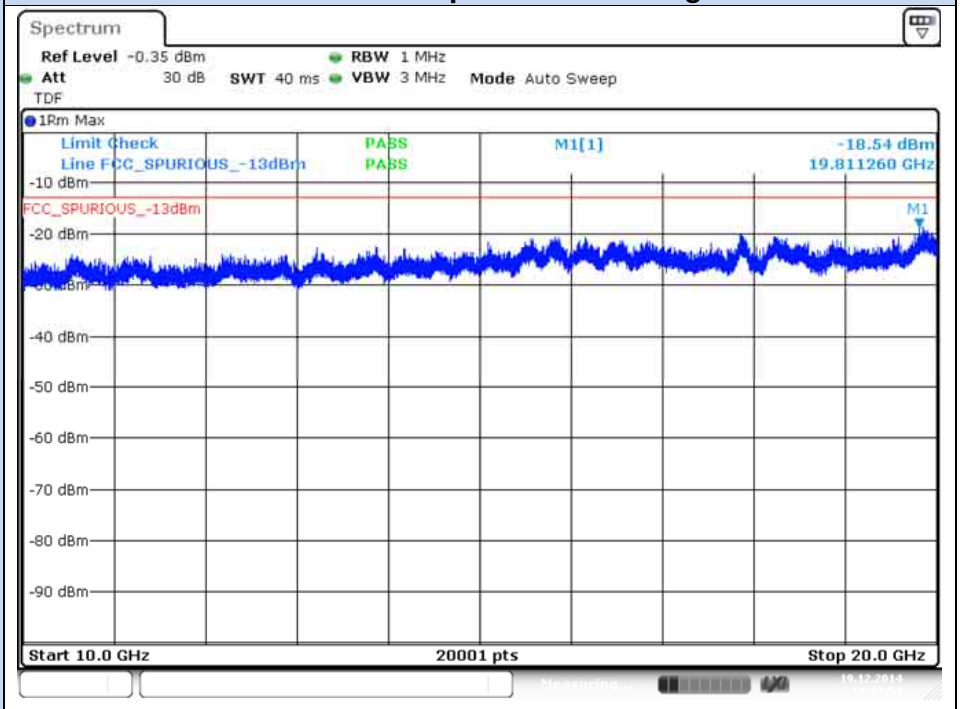
Spurious Emission 30MHz to 10GHz

WCDMA Band IV RMC12.2kbps 1752.6MHz High channel 1513



Spurious Emission 10GHz to 20GHz

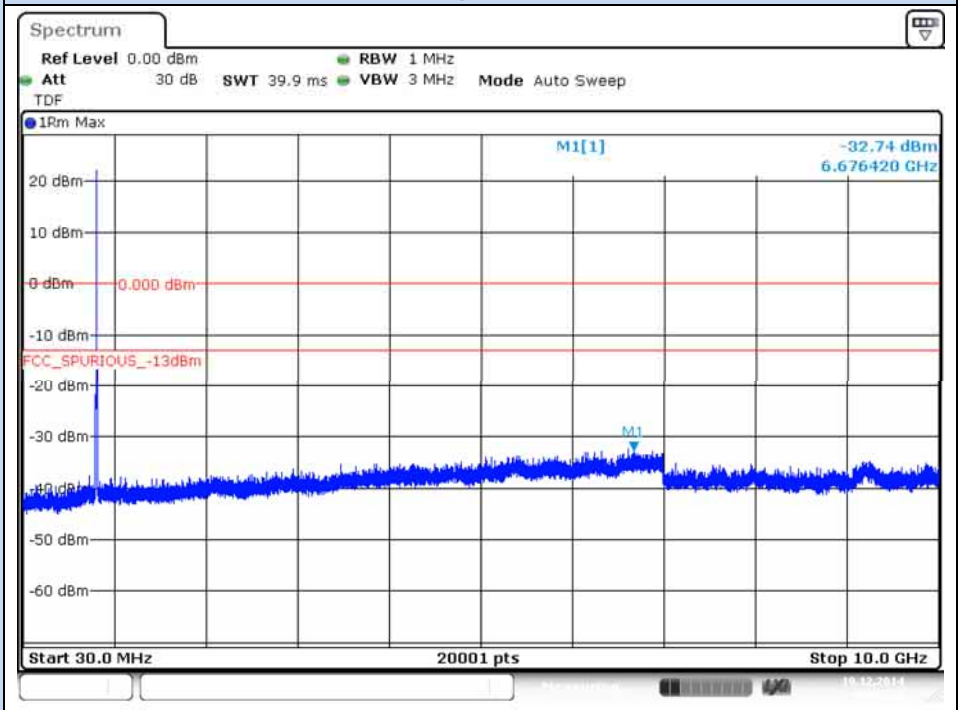
WCDMA Band IV RMC12.2kbps 1752.6MHz High channel 1513



WCDMA Band V

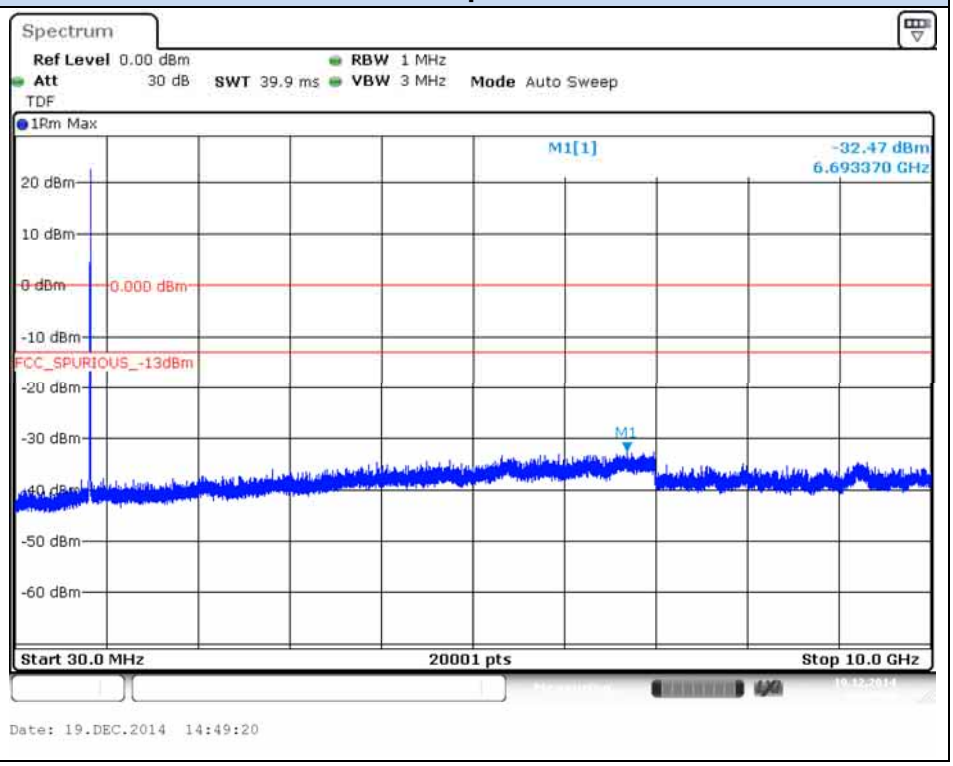
Spurious Emission 30MHz to 10GHz

WCDMA Band V RMC12.2kbps 826.4MHz Low channel 4132

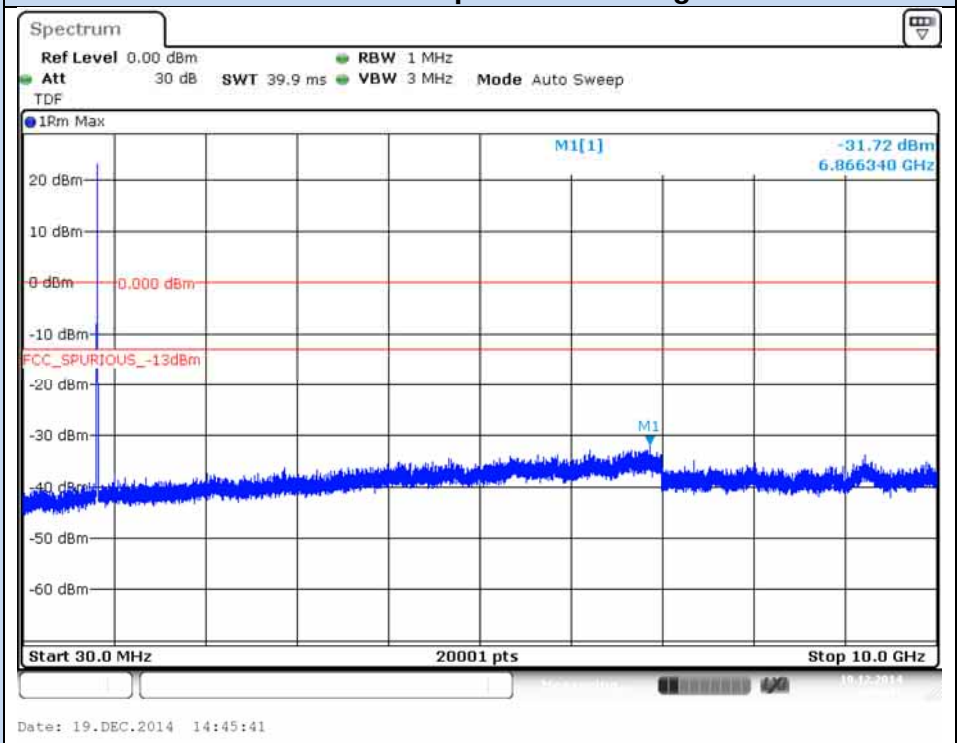


Spurious Emission 10GHz to 20GHz

WCDMA Band V RMC12.2kbps 836MHz Mid channel 4180



Spurious Emission 30MHz to 10GHz	WCDMA Band V RMC12.2kbps 846.6MHz High channel 4233



B.2.5 Radiated spurious emission

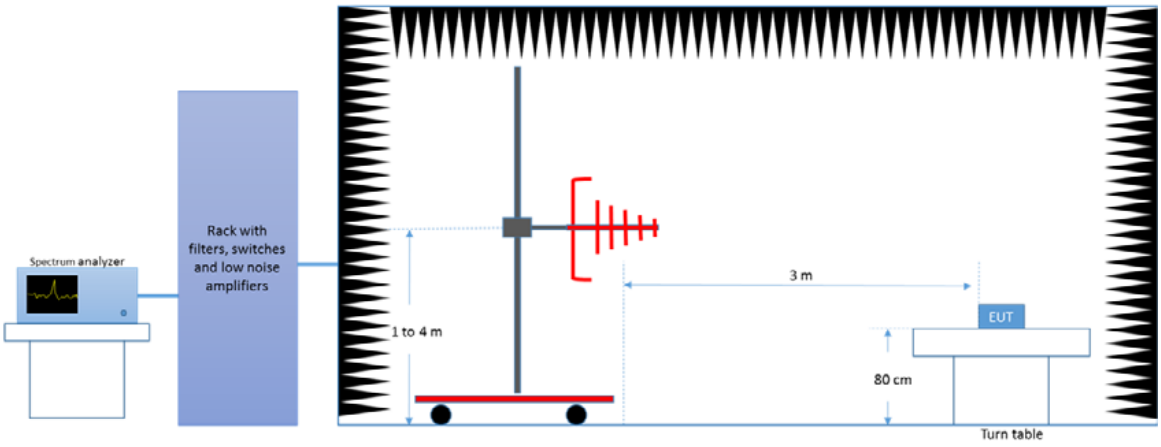
Standard references

BAND	FCC part	RSS part	Limits
PCS 1900, WCDMA 2	2.1051, 24.238	133-ch6.5.1	The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.
WCDMA 4	2.1051, 27.53	139-ch.6.5, 199-ch.4.5	The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least 43 + 10 log10 (P) dB.
GSM 850, WCDMA 5	2.1051, 22.917	132-ch.5.5	The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.

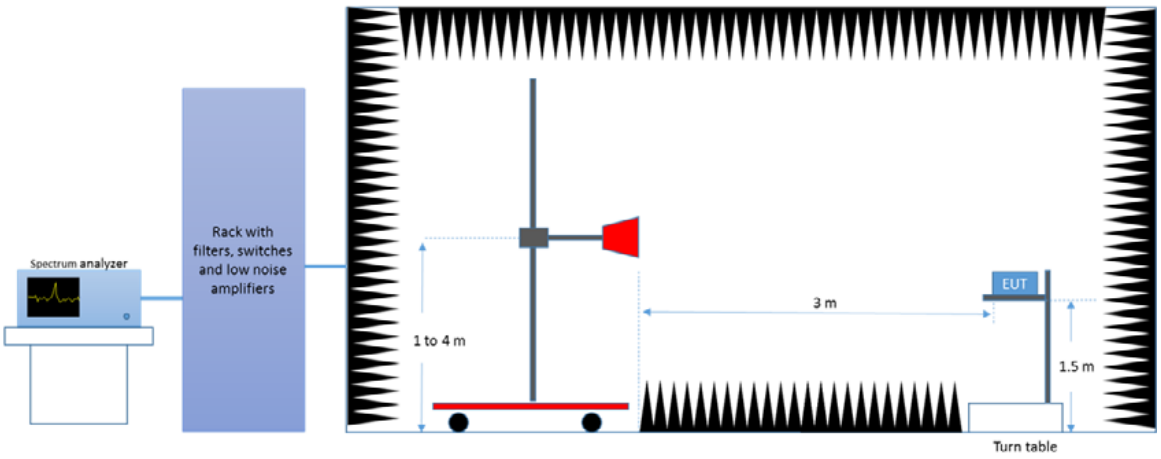
Test procedure

The setup below was used to measure the radiated spurious emissions. The test was done following the FCC OET KDB 971168 D01 v02r02 § 7.
Depending of the frequency range and bands being tested, different antennas and filters were used.
The final measurement is done by varying the antenna height from 1 to 4 meters, the EUT azimuth over 360º and for both Vertical and Horizontal polarizations.
The radiated spurious emission was measured on the worst case configuration selected from the chapter B.2.1 and on the low, middle and high channel.

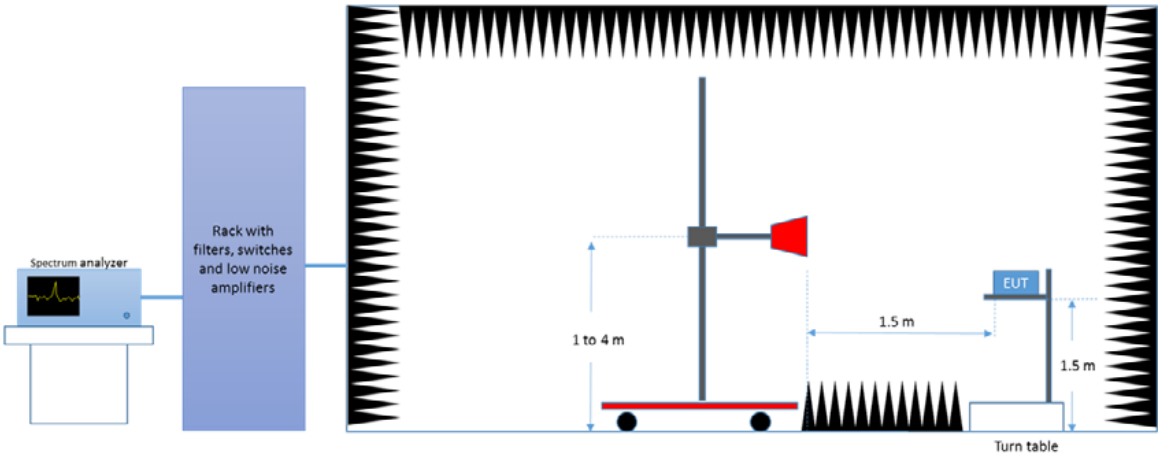
Radiated Setup < 1GHz



Radiated Setup Frequency range 1 GHz to 18 GHz



Radiated Setup > 18GHz



Test Results – GSM850

Radiated measurement from 30MHz to 1GHz

GSM850 GPRS/GMSK Low channel 128

Frequency	MaxPeak	RMS	Bandwidth	Height	Pol	Azimuth	Corr.
MHz	dBm	dBm	kHz	cm		deg	dB
674.334231	-35.68	---	100.000	210.1	H	348.0	-63.9
674.912693	---	-46.11	100.000	131.1	H	64.0	-63.8
869.209615	-34.60	---	100.000	132.1	H	160.0	-68.2
869.261923	---	-41.12	100.000	128.1	H	128.0	-68.2

GSM850 GPRS/GMSK Mid channel 190

Frequency	MaxPeak	RMS	Bandwidth	Height	Pol	Azimuth	Corr.
MHz	dBm	dBm	kHz	cm		deg	dB
772.802692	---	-46.95	100.000	132.1	V	212.0	-64.7
774.303847	-36.80	---	100.000	132.2	V	37.0	-64.4
881.589615	-35.27	---	100.000	113.2	H	120.0	-65.8
881.660769	---	-37.80	100.000	131.1	H	254.0	-65.8
897.688462	---	-44.24	100.000	399.8	H	23.0	-62.0
901.908077	-33.83	---	100.000	399.8	H	90.0	-61.8

GSM850 GPRS/GMSK High channel 251

Frequency	MaxPeak	RMS	Bandwidth	Height	Pol	Azimuth	Corr.
MHz	dBm	dBm	kHz	cm		deg	dB
772.457307	-37.26	---	100.000	309.2	V	334.0	-64.8
774.940385	---	-46.28	100.000	242.1	V	286.0	-64.2
893.728462	-30.55	---	100.000	260.1	H	323.0	-63.0
893.872308	---	-83.39	100.000	112.2	H	316.0	-107.0

GSM850 EDGE/8PSK Low channel 128

Frequency	MaxPeak	RMS	Bandwidth	Height	Pol	Azimuth	Corr.
MHz	dBm	dBm	kHz	cm		deg	dB
673.318462	-36.75	---	100.000	335.1	H	14.0	-64.1
675.712693	---	-46.34	100.000	146.1	H	178.0	-63.9
899.706153	---	-43.50	100.000	174.1	H	337.0	-61.6
903.180769	-33.33	---	100.000	273.1	H	330.0	-62.0

GSM850 EDGE/8PSK Mid channel 190

Frequency	MaxPeak	RMS	Bandwidth	Height	Pol	Azimuth	Corr.
MHz	dBm	dBm	kHz	cm		deg	dB
674.010385	-36.16	---	100.000	258.1	H	277.0	-64.0
674.933077	---	-46.14	100.000	308.2	H	182.0	-63.8
881.620770	-34.03	---	100.000	113.2	H	210.0	-65.8
881.681923	---	-38.16	100.000	127.2	H	228.0	-65.8
900.197308	---	-43.54	100.000	389.1	H	54.0	-61.5
903.380000	-33.47	---	100.000	352.1	H	124.0	-62.0

GSM850 EDGE/8PSK High channel 251

Frequency	MaxPeak	RMS	Bandwidth	Height	Pol	Azimuth	Corr.
MHz	dBm	dBm	kHz	cm		deg	dB
775.042307	---	-46.41	100.000	322.1	V	4.0	-64.2
775.080000	-36.53	---	100.000	247.2	V	346.0	-64.2
893.839231	-29.56	---	100.000	127.2	H	1.0	-62.9
893.873846	---	-35.39	100.000	127.1	H	260.0	-62.9

Radiated measurement from 1GHz to 6.4 GHz

GSM850 GPRS/GMSK Low channel 128

Frequency	MaxPeak	RMS	Bandwidth	Height	Pol	Azimuth	Corr.
MHz	dBm	dBm	kHz	cm		deg	dB
6368.257143	---	-50.69	1000.000	100.2	V	2.0	-88.9
6386.585791	-38.90	---	1000.000	176.2	V	1.0	-88.9

GSM850 GPRS/GMSK Mid channel 190

Frequency	MaxPeak	RMS	Bandwidth	Height	Pol	Azimuth	Corr.
MHz	dBm	dBm	kHz	cm		deg	dB
1770.860714	---	-64.65	1000.000	248.1	V	163.0	-104.2
1771.878571	-53.02	---	1000.000	253.1	V	131.0	-104.2
5849.667857	-56.73	---	1000.000	198.1	V	317.0	-107.0
5859.603571	---	-51.24	1000.000	307.2	V	241.0	-89.9

GSM850 GPRS/GMSK High channel 251

Frequency	MaxPeak	RMS	Bandwidth	Height	Pol	Azimuth	Corr.
MHz	dBm	dBm	kHz	cm		deg	dB
6230.478571	-39.41	---	1000.000	100.2	V	3.0	-89.1
6231.514286	---	-50.91	1000.000	274.9	V	170.0	-89.1

GSM850 EDGE/8PSK Low channel 128

Frequency	MaxPeak	RMS	Bandwidth	Height	Pol	Azimuth	Corr.
MHz	dBm	dBm	kHz	cm		deg	dB
5625.303571	-39.76	---	1000.000	274.8	V	219.0	-90.1
5625.939285	---	-51.35	1000.000	175.1	V	252.0	-90.1

GSM850 EDGE/8PSK Mid channel 190

Frequency	MaxPeak	RMS	Bandwidth	Height	Pol	Azimuth	Corr.
MHz	dBm	dBm	kHz	cm		deg	dB
1772.000000	---	-64.69	1000.000	100.2	V	226.0	-104.2
1772.760714	-53.01	---	1000.000	227.1	V	332.0	-104.2
6373.325000	-38.54	---	1000.000	175.2	V	22.0	-88.9
6375.050000	---	-50.65	1000.000	226.1	V	14.0	-88.9

GSM850 EDGE/8PSK High channel 251

Frequency	MaxPeak	RMS	Bandwidth	Height	Pol	Azimuth	Corr.
MHz	dBm	dBm	kHz	cm		deg	dB
1775.871429	-54.76	---	1000.000	301.1	H	168.0	-105.9
1789.178572	---	-66.19	1000.000	400.0	H	0.0	-105.8
6220.871429	-39.09	---	1000.000	399.8	V	313.0	-89.2
6232.471429	---	-50.84	1000.000	100.1	V	306.0	-89.1

Radiated measurement from 6.4GHz to 18GHz

GSM850 GPRS/GMSK Low channel 128

Frequency	MaxPeak	RMS	Bandwidth	Height	Pol	Azimuth	Corr.
MHz	dBm	dBm	kHz	cm		deg	dB
6594.752941	-38.38	---	1000.000	219.1	V	182.0	-100.2
6595.300000	---	-60.52	1000.000	218.1	V	178.0	-100.2

GSM850 GPRS/GMSK Mid channel190

Frequency	MaxPeak	RMS	Bandwidth	Height	Pol	Azimuth	Corr.
MHz	dBm	dBm	kHz	cm		deg	dB
17997.819585	---	-53.24	1000.000	100.2	V	20.0	-84.3
17998.224585	-41.67	---	1000.000	253.2	H	161.0	-85.0

GSM850 GPRS/GMSK High channel 251

Frequency	MaxPeak	RMS	Bandwidth	Height	Pol	Azimuth	Corr.
MHz	dBm	dBm	kHz	cm		deg	dB
17488.223529	-42.10	---	1000.000	268.2	H	4.0	-88.0
17494.852941	---	-53.15	1000.000	351.1	V	6.0	-87.3

GSM850 EDGE/8PSK Low channel 128

Frequency	MaxPeak	RMS	Bandwidth	Height	Pol	Azimuth	Corr.
MHz	dBm	dBm	kHz	cm		deg	dB
6585.429412	-50.89	---	1000.000	360.1	V	264.0	-100.2
6593.005882	---	-50.01	1000.000	194.1	V	178.0	-100.2

GSM850 EDGE/8PSK Mid channel 190

Frequency	MaxPeak	RMS	Bandwidth	Height	Pol	Azimuth	Corr.
MHz	dBm	dBm	kHz	cm		deg	dB
6690.805883	---	-63.03	1000.000	100.2	V	10.0	-100.1
6691.547059	-52.20	---	1000.000	120.1	V	168.0	-100.1

GSM850 EDGE/8PSK High channel 251

Frequency	MaxPeak	RMS	Bandwidth	Height	Pol	Azimuth	Corr.
MHz	dBm	dBm	kHz	cm		deg	dB
17985.935294	-40.61	---	1000.000	240.2	V	238.0	-84.6
17999.959308	---	-52.71	1000.000	234.1	V	194.0	-84.3

Test Results – GSM1900

Radiated measurement from 30MHz to 1GHz

GSM1900 GPRS/GMSK Low channel 512

Frequency	MaxPeak	RMS	Bandwidth	Height	Pol	Azimuth	Corr.
MHz	dBm	dBm	kHz	cm		deg	dB
78.641666	---	-66.18	1000.000	134.1	V	3.0	-106.3
78.754166	-51.78	---	1000.000	182.2	V	313.0	-106.3

GSM1900 GPRS/GMSK Mid channel 661

Frequency	MaxPeak	RMS	Bandwidth	Height	Pol	Azimuth	Corr.
MHz	dBm	dBm	kHz	cm		deg	dB
624.807692	-54.53	---	1000.000	300.0	H	64.0	-94.8
625.000000	---	-64.80	1000.000	300.0	H	134.0	-94.8

GSM1900 GPRS/GMSK High channel 810

Frequency	MaxPeak	RMS	Bandwidth	Height	Pol	Azimuth	Corr.
MHz	dBm	dBm	kHz	cm		deg	dB
625.961539	---	-64.89	1000.000	100.0	H	24.0	-94.9
628.461539	-53.40	---	1000.000	300.0	H	31.0	-95.3

GSM1900 EDGE/8PSK Low channel 512

Frequency	MaxPeak	RMS	Bandwidth	Height	Pol	Azimuth	Corr.
MHz	dBm	dBm	kHz	cm		deg	dB
78.370833	---	-64.62	1000.000	100.0	V	0.0	-106.3
78.958333	-51.06	---	1000.000	100.0	V	345.0	-106.4

GSM1900 EDGE/8PSK Mid channel 661

Frequency	MaxPeak	RMS	Bandwidth	Height	Pol	Azimuth	Corr.
MHz	dBm	dBm	kHz	cm		deg	dB
78.958333	---	-64.55	1000.000	100.0	V	28.0	-106.4
79.741667	-45.06	---	1000.000	100.0	V	48.0	-106.4

GSM1900 EDGE/8PSK High channel 810

Frequency	MaxPeak	RMS	Bandwidth	Height	Pol	Azimuth	Corr.
MHz	dBm	dBm	kHz	cm		deg	dB
625.192308	-54.03	---	1000.000	100.0	H	202.0	-94.8
625.576923	---	-64.88	1000.000	300.0	H	58.0	-94.8

GSM1900 GPRS/GMSK Low channel 512

Frequency	MaxPeak	RMS	Bandwidth	Height	Pol	Azimuth	Corr.
MHz	dBm	dBm	kHz	cm		deg	dB
1930.258334	---	-45.37	1000.000	100.2	V	278.0	-60.1
1930.337500	-39.83	---	1000.000	143.1	V	231.0	-60.1
3701.129167	-44.22	---	1000.000	244.1	H	257.0	-97.0
3707.866667	---	-57.77	1000.000	245.1	H	83.0	-96.9
5543.879166	---	-55.24	1000.000	190.1	H	1.0	-93.9
5553.983333	-42.85	---	1000.000	145.1	H	359.0	-94.0

GSM1900 GPRS/GMSK Mid channel 661

Frequency	MaxPeak	RMS	Bandwidth	Height	Pol	Azimuth	Corr.
MHz	dBm	dBm	kHz	cm		deg	dB
1765.978948	---	-65.63	1000.000	237.1	V	0.0	-105.2
1767.494737	-53.76	---	1000.000	236.1	V	302.0	-105.2
1960.021053	---	-45.66	1000.000	122.2	V	318.0	-103.2
1960.115789	-43.61	---	1000.000	171.1	V	302.0	-103.2
5639.415790	---	-41.08	1000.000	251.1	V	217.0	-92.7
5639.694737	-31.51	---	1000.000	249.1	V	217.0	-92.7

GSM1900 GPRS/GMSK High channel 810

Frequency	MaxPeak	RMS	Bandwidth	Height	Pol	Azimuth	Corr.
MHz	dBm	dBm	kHz	cm		deg	dB
1775.087500	-45.34	---	1000.000	100.2	V	162.0	-61.4
1775.458333	---	-57.01	1000.000	224.8	V	103.0	-61.4
1989.766666	-39.53	---	1000.000	144.1	V	202.0	-59.6
1989.829167	---	-93.94	1000.000	144.2	V	199.0	-107.0
3810.758333	---	-58.28	1000.000	100.2	H	130.0	-96.9
3816.808334	-46.78	---	1000.000	120.2	H	112.0	-96.9
5728.987500	---	-44.36	1000.000	292.2	V	224.0	-92.6
5729.241666	-34.71	---	1000.000	246.1	V	218.0	-92.6

GSM1900 EDGE/8PSK Low channel 512

Frequency	MaxPeak	RMS	Bandwidth	Height	Pol	Azimuth	Corr.
MHz	dBm	dBm	kHz	cm		deg	dB
1930.158334	-38.31	---	1000.000	101.2	V	90.0	-60.1
1930.183333	---	-45.98	1000.000	145.1	V	321.0	-60.1
2993.046354	-37.38	---	1000.000	291.1	V	113.0	-55.1
2997.083680	---	-49.30	1000.000	144.1	V	13.0	-55.1

GSM1900 EDGE/8PSK Mid channel 661

Frequency	MaxPeak	RMS	Bandwidth	Height	Pol	Azimuth	Corr.
MHz	dBm	dBm	kHz	cm		deg	dB
1959.900000	-41.12	---	1000.000	340.2	H	89.0	-102.9
1960.100000	---	-47.25	1000.000	151.2	V	210.0	-103.2
6343.415789	-41.07	---	1000.000	227.1	V	21.0	-90.9
6375.131579	---	-52.63	1000.000	153.1	V	151.0	-90.7

GSM1900 EDGE/8PSK High channel 810

Frequency	MaxPeak	RMS	Bandwidth	Height	Pol	Azimuth	Corr.
MHz	dBm	dBm	kHz	cm		deg	dB
1773.991666	---	-59.05	1000.000	375.0	H	0.0	-63.4
1774.845834	-47.15	---	1000.000	374.8	H	74.0	-63.4
1989.787500	---	-46.62	1000.000	143.1	V	202.0	-59.6
1989.933333	-39.32	---	1000.000	143.1	V	268.0	-59.6
5720.745834	---	-56.73	1000.000	374.9	H	260.0	-94.9
5729.816667	-38.80	---	1000.000	143.1	V	211.0	-92.6

Radiated measurement from 6.4GHz to 18GHz

GSM1900 GPRS/GMSK Low channel 512

Frequency	MaxPeak	RMS	Bandwidth	Height	Pol	Azimuth	Corr.
MHz	dBm	dBm	kHz	cm		deg	dB
7399.952941	-39.85	---	1000.000	267.1	V	346.0	-98.4
7402.264706	---	-59.53	1000.000	268.2	V	347.0	-98.4

GSM1900 GPRS/GMSK Mid channel 661

Frequency	MaxPeak	RMS	Bandwidth	Height	Pol	Azimuth	Corr.
MHz	dBm	dBm	kHz	cm		deg	dB
7510.694117	---	-61.83	1000.000	175.1	V	190.0	-98.2
7510.788235	-50.72	---	1000.000	275.0	V	12.0	-98.2

GSM1900 GPRS/GMSK High channel 810

Frequency	MaxPeak	RMS	Bandwidth	Height	Pol	Azimuth	Corr.
MHz	dBm	dBm	kHz	cm		deg	dB
7630.905882	-53.41	---	1000.000	237.2	H	160.0	-99.2
7638.617647	---	-49.66	1000.000	213.1	H	30.0	-99.2

GSM1900 EDGE/8PSK Low channel 512

Frequency	MaxPeak	RMS	Bandwidth	Height	Pol	Azimuth	Corr.
MHz	dBm	dBm	kHz	cm		deg	dB
7391.247059	---	-61.53	1000.000	378.1	V	114.0	-98.4
7406.858823	-49.41	---	1000.000	315.1	V	160.0	-98.4

GSM1900 EDGE/8PSK Mid channel 661

Frequency	MaxPeak	RMS	Bandwidth	Height	Pol	Azimuth	Corr.
MHz	dBm	dBm	kHz	cm		deg	dB
7519.888235	-37.46	---	1000.000	167.1	V	112.0	-98.3
7520.588235	---	-46.46	1000.000	143.2	H	1.0	-99.2

GSM1900 EDGE/8PSK High channel 810

Frequency	MaxPeak	RMS	Bandwidth	Height	Pol	Azimuth	Corr.
MHz	dBm	dBm	kHz	cm		deg	dB
7637.800000	---	-58.38	1000.000	171.1	V	110.0	-98.8
7644.388235	-58.62	---	1000.000	144.1	V	63.0	-107.0
11460.305883	---	-58.08	1000.000	206.1	V	69.0	-97.3
11460.405883	-47.36	---	1000.000	182.1	V	63.0	-97.3

Radiated measurement from 18 GHz to 26GHz

GSM1900 GPRS/GMSK Low channel 512

Frequency	MaxPeak	RMS	Bandwidth	Height	Pol	Azimuth	Corr.
MHz	dBm	dBm	kHz	cm		deg	dB
18056.252381	-50.23	---	1000.000	150.0	H	316.0	-91.0
18070.428572	---	-61.48	1000.000	150.0	V	257.0	-91.0

GSM1900 GPRS/GMSK Mid channel 661

Frequency	MaxPeak	RMS	Bandwidth	Height	Pol	Azimuth	Corr.
MHz	dBm	dBm	kHz	cm		deg	dB
18080.547619	-50.07	---	1000.000	150.0	H	151.0	-91.0
18089.557143	---	-61.60	1000.000	150.0	V	63.0	-91.0

GSM1900 GPRS/GMSK High channel 810

Frequency	MaxPeak	RMS	Bandwidth	Height	Pol	Azimuth	Corr.
MHz	dBm	dBm	kHz	cm		deg	dB
18089.466666	---	-61.61	1000.000	150.0	V	30.0	-91.0
18097.990476	-49.75	---	1000.000	150.0	H	281.0	-91.0

GSM1900 EDGE/8PSK Low channel 512

Frequency	MaxPeak	RMS	Bandwidth	Height	Pol	Azimuth	Corr.
MHz	dBm	dBm	kHz	cm		deg	dB
18060.419048	-50.31	---	1000.000	150.0	V	156.0	-91.0
18064.495238	---	-61.56	1000.000	150.0	V	132.0	-91.0

GSM1900 EDGE/8PSK Mid channel 661

Frequency	MaxPeak	RMS	Bandwidth	Height	Pol	Azimuth	Corr.
MHz	dBm	dBm	kHz	cm		deg	dB
18083.709523	-49.99	---	1000.000	150.0	V	51.0	-91.0
18102.171428	---	-61.53	1000.000	150.0	H	1.0	-91.1

GSM1900 EDGE/8PSK High channel 810

Frequency	MaxPeak	RMS	Bandwidth	Height	Pol	Azimuth	Corr.
MHz	dBm	dBm	kHz	cm		deg	dB
18080.076190	-49.08	---	1000.000	150.0	V	108.0	-91.0
18080.771428	---	-61.46	1000.000	150.0	V	202.0	-91.0

Test Results – WCDMA 2

Radiated measurement from 30MHz to 1GHz

WCDMA 2 Low channel 9262

Frequency	MaxPeak	RMS	Bandwidth	Height	Pol	Azimuth	Corr.
MHz	dBm	dBm	kHz	cm		deg	dB
625.576923	-54.54	---	1000.000	100.0	H	0.0	-94.8
627.692308	---	-65.31	1000.000	300.0	H	0.0	-95.2

WCDMA 2 Mid channel 9400

Frequency	MaxPeak	RMS	Bandwidth	Height	Pol	Azimuth	Corr.
MHz	dBm	dBm	kHz	cm		deg	dB
624.423077	---	-64.82	1000.000	300.0	H	0.0	-94.9
625.384615	-55.33	---	1000.000	300.0	H	0.0	-94.8

WCDMA 2 High channel 9538

Frequency	MaxPeak	RMS	Bandwidth	Height	Pol	Azimuth	Corr.
MHz	dBm	dBm	kHz	cm		deg	dB
625.769231	---	-64.89	1000.000	100.0	H	142.0	-94.9
627.307692	-54.33	---	1000.000	100.0	H	48.0	-95.1

Radiated measurement from 1GHz to 6.4GHz

WCDMA 2 Low channel 9262

Frequency	MaxPeak	RMS	Bandwidth	Height	Pol	Azimuth	Corr.
MHz	dBm	dBm	kHz	cm		deg	dB
3702.683333	-41.20	---	1000.000	207.1	V	12.0	-96.8
3703.116666	---	-50.00	1000.000	100.1	V	12.0	-96.8
5559.994445	---	-41.38	1000.000	100.2	V	287.0	-92.9
5561.227777	-30.99	---	1000.000	100.2	V	14.0	-92.9

WCDMA 2 Mid channel 9400

Frequency	MaxPeak	RMS	Bandwidth	Height	Pol	Azimuth	Corr.
MHz	dBm	dBm	kHz	cm		deg	dB
3761.800000	---	-51.14	1000.000	211.1	V	21.0	-96.5
3761.961111	-40.16	---	1000.000	100.2	V	20.0	-96.6
5636.633333	-33.28	---	1000.000	100.2	V	285.0	-92.7
5637.066666	---	-42.81	1000.000	120.2	V	284.0	-92.7

WCDMA 2 High channel 9538

Frequency	MaxPeak	RMS	Meas. Time	Bandwidth	Height	Pol	Azimuth	Corr.
MHz	dBm	dBm	ms	kHz	cm		deg	dB
2426.754546	-39.82	---	1000.0	1000.000	256.1	V	140.0	-56.1
2441.918182	---	-50.86	1000.0	1000.000	147.2	V	0.0	-56.1
3817.105556	-42.74	---	1000.0	1000.000	183.2	H	100.0	-96.9
3817.111112	---	-53.90	1000.0	1000.000	341.1	H	67.0	-96.9
5725.483333	-30.36	---	1000.0	1000.000	163.2	H	295.0	-94.9
5725.722223	---	-36.33	1000.0	1000.000	100.2	V	286.0	-92.6

Radiated measurement from 6.4GHz to 18GHz

WCDMA 2 Low channel 9262

Frequency	MaxPeak	RMS	Bandwidth	Height	Pol	Azimuth	Corr.
MHz	dBm	dBm	kHz	cm		deg	dB
7405.393334	-38.98	---	1000.000	181.8	V	99.0	-98.4
7405.805000	---	-48.52	1000.000	169.0	V	93.0	-98.4
9257.260000	-45.15	---	1000.000	196.4	V	78.0	-99.0
9257.435000	---	-57.29	1000.000	163.5	V	82.0	-99.0
9537.546667	---	-62.70	1000.000	392.8	H	68.0	-99.8
9540.281666	-50.74	---	1000.000	317.0	H	28.0	-99.8

WCDMA 2 Mid channel 9400

Frequency	MaxPeak	RMS	Bandwidth	Height	Pol	Azimuth	Corr.
MHz	dBm	dBm	kHz	cm		deg	dB
7523.916667	---	-49.65	1000.000	171.4	V	89.0	-98.3
7524.508333	-40.58	---	1000.000	171.9	V	89.0	-98.3
9395.215000	---	-54.53	1000.000	171.6	V	80.0	-99.0
9404.386666	-43.54	---	1000.000	152.6	V	81.0	-99.0

WCDMA 2 High channel 9538

Frequency	MaxPeak	RMS	Bandwidth	Height	Pol	Azimuth	Corr.
MHz	dBm	dBm	kHz	cm		deg	dB
7626.663333	---	-48.88	1000.000	203.9	V	79.0	-98.8
7626.801666	-38.92	---	1000.000	158.1	V	82.0	-98.8
9542.465000	-40.25	---	1000.000	188.9	V	71.0	-98.9
9543.200000	---	-46.22	1000.000	177.3	V	72.0	-98.9
11450.598334	-42.39	---	1000.000	202.0	V	67.0	-97.3
11452.283334	---	-52.85	1000.000	217.7	V	66.0	-97.3

Radiated measurement from 18GHz to 26.5GHz

WCDMA 2 Low channel 9262

Frequency	MaxPeak	RMS	Bandwidth	Height	Pol	Azimuth	Corr.
MHz	dBm	dBm	kHz	cm		deg	dB
26482.108000	-48.68	---	1000.000	150.0	V	220.0	-89.2
26493.635000	---	-60.31	1000.000	150.0	V	200.0	-89.2

WCDMA 2 Mid channel 9400

Frequency	MaxPeak	RMS	Bandwidth	Height	Pol	Azimuth	Corr.
MHz	dBm	dBm	kHz	cm		deg	dB
26481.734000	---	-60.39	1000.000	150.0	V	122.0	-89.2
26499.028630	-48.74	---	1000.000	150.0	V	43.0	-89.2

WCDMA 2 High channel 9538

Frequency	MaxPeak	RMS	Bandwidth	Height	Pol	Azimuth	Corr.
MHz	dBm	dBm	kHz	cm		deg	dB
26494.490000	---	-60.32	1000.000	150.0	V	221.0	-89.2
26495.673000	-48.29	---	1000.000	150.0	V	152.0	-89.2

Test Results – WCDMA 4

Radiated measurement from 30MHz to 1GHz

WCDMA 4 Low channel 1312

Frequency	MaxPeak	RMS	Bandwidth	Height	Pol	Azimuth	Corr.
MHz	dBm	dBm	kHz	cm		deg	dB
624.615385	---	-65.08	1000.000	300.0	H	0.0	-94.9
626.730769	-54.03	---	1000.000	300.0	H	0.0	-95.0

WCDMA 4 Mid channel 1413

Frequency	MaxPeak	RMS	Bandwidth	Height	Pol	Azimuth	Corr.
MHz	dBm	dBm	kHz	cm		deg	dB
624.038462	-54.63	---	1000.000	300.0	H	0.0	-95.0
626.153846	---	-65.11	1000.000	100.0	H	0.0	-94.9

WCDMA 4 High channel 1513

Frequency	MaxPeak	RMS	Bandwidth	Height	Pol	Azimuth	Corr.
MHz	dBm	dBm	kHz	cm		deg	dB
623.076923	-54.89	---	1000.000	300.0	H	0.0	-95.3
625.769231	---	-65.10	1000.000	300.0	H	0.0	-94.9

Radiated measurement from 1GHz to 6.4GHz

WCDMA 4 Low channel 1312

Frequency	MaxPeak	RMS	Bandwidth	Height	Pol	Azimuth	Corr.
MHz	dBm	dBm	kHz	cm		deg	dB
2112.600000	-32.39	---	1000.000	164.2	H	150.0	-61.6
2112.900000	---	-43.94	1000.000	144.2	H	156.0	-61.6
3422.883334	-38.24	---	1000.000	243.1	H	311.0	-98.1
3422.944444	---	-46.87	1000.000	232.1	H	319.0	-98.1
5140.350000	---	-44.73	1000.000	183.1	V	277.0	-94.0
5140.805556	-29.36	---	1000.000	100.2	V	295.0	-94.0

WCDMA 4 Mid channel 1413

Frequency	MaxPeak	RMS	Bandwidth	Height	Pol	Azimuth	Corr.
MHz	dBm	dBm	kHz	cm		deg	dB
1960.454545	---	-57.20	1000.000	297.1	H	320.0	-62.0
1965.290909	-45.30	---	1000.000	119.2	H	102.0	-62.0
2438.954545	-39.28	---	1000.000	302.1	V	265.0	-56.1
2442.845454	---	-33.96	1000.000	119.2	V	171.0	-56.1
3463.422223	---	-43.27	1000.000	120.2	H	315.0	-98.2
3467.355556	-24.92	---	1000.000	278.1	H	331.0	-98.2

WCDMA 4 High channel 1513

Frequency	MaxPeak	RMS	Bandwidth	Height	Pol	Azimuth	Corr.
MHz	dBm	dBm	kHz	cm		deg	dB
1962.645454	---	-57.07	1000.000	321.1	H	82.0	-62.0
1964.136364	-45.36	---	1000.000	100.2	H	102.0	-62.0
2438.045454	-39.35	---	1000.000	393.2	V	13.0	-56.1
2439.790909	---	-49.59	1000.000	183.2	V	296.0	-56.1
3507.122222	---	-48.21	1000.000	119.1	V	294.0	-98.0
3507.194445	-32.76	---	1000.000	120.2	V	297.0	-98.0

Radiated measurement from 6.4GHz to 18GHz

WCDMA 4 Low channel 1312

Frequency	MaxPeak	RMS	Bandwidth	Height	Pol	Azimuth	Corr.
MHz	dBm	dBm	kHz	cm		deg	dB
6845.058334	-34.63	---	1000.000	243.6	V	202.0	-99.9
6845.735000	---	-44.66	1000.000	155.8	V	104.0	-99.9
8555.988333	-35.03	---	1000.000	202.1	V	79.0	-99.5
8560.586667	---	-51.74	1000.000	163.4	V	78.0	-99.5

WCDMA 4 Mid channel 1413

Frequency	MaxPeak	RMS	Bandwidth	Height	Pol	Azimuth	Elevation	Corr.
MHz	dBm	dBm	kHz	cm		deg	deg	dB
6926.011667	-37.82	---	1000.000	162.6	V	103.0	0.0	-99.8
6930.380000	---	-47.26	1000.000	173.6	V	101.0	0.0	-99.8
8668.145000	-40.14	---	1000.000	181.6	V	75.0	0.0	-99.4
8668.531667	---	-49.72	1000.000	163.1	V	80.0	0.0	-99.4

WCDMA 4 High channel 1513

Frequency	MaxPeak	RMS	Bandwidth	Height	Pol	Azimuth	Corr.
MHz	dBm	dBm	kHz	cm		deg	dB
7006.383333	-37.28	---	1000.000	163.4	V	102.0	-99.7
7010.405000	---	-45.67	1000.000	171.3	V	104.0	-99.7
8757.480000	-41.15	---	1000.000	189.9	V	69.0	-99.4
8768.278333	---	-55.68	1000.000	160.4	V	79.0	-99.4

Test Results – WCDMA 5

Radiated measurement from 30MHz to 1GHz

WCDMA 5 Low channel 4132

Frequency	MaxPeak	RMS	Bandwidth	Height	Pol	Azimuth	Corr.
MHz	dBm	dBm	kHz	cm		deg	dB
627.284200	-36.80	---	100.000	110.2	H	181.0	-64.8
627.978200	---	-48.02	100.000	238.1	H	168.0	-64.9

WCDMA 5 Mid channel 4180

Frequency	MaxPeak	RMS	Bandwidth	Height	Pol	Azimuth	Corr.
MHz	dBm	dBm	kHz	cm		deg	dB
625.689600	---	-47.62	100.000	100.2	H	223.0	-64.6
626.245000	-37.24	---	100.000	130.3	H	68.0	-64.6

WCDMA 5 High channel 4230

Frequency	MaxPeak	RMS	Bandwidth	Height	Pol	Azimuth	Corr.
MHz	dBm	dBm	kHz	cm		deg	dB
628.761000	---	-48.25	100.000	369.1	H	336.0	-65.0
630.363600	-38.85	---	100.000	118.2	H	178.0	-65.3

Radiated measurement from 1GHz to 6.4GHz

WCDMA 5 Low channel 4132

Frequency	MaxPeak	RMS	Bandwidth	Height	Pol	Azimuth	Corr.
MHz	dBm	dBm	kHz	cm		deg	dB
1958.457143	---	-62.92	1000.000	254.1	V	48.0	-102.5
1959.139286	-51.65	---	1000.000	154.2	V	183.0	-102.5

WCDMA 5 Mid channel 4180

Frequency	MaxPeak	RMS	Bandwidth	Height	Pol	Azimuth	Corr.
MHz	dBm	dBm	kHz	cm		deg	dB
1957.900000	---	-62.94	1000.000	286.1	V	291.0	-102.5
1959.289286	-51.88	---	1000.000	360.2	V	135.0	-102.5

WCDMA 5 High channel 4230

Frequency	MaxPeak	RMS	Bandwidth	Height	Pol	Azimuth	Corr.
MHz	dBm	dBm	kHz	cm		deg	dB
3015.325000	---	-58.35	1000.000	156.2	V	171.0	-97.7
3021.107143	-47.50	---	1000.000	213.1	V	78.0	-97.6

WCDMA 5 Low channel 4132

Frequency	MaxPeak	RMS	Bandwidth	Height	Pol	Azimuth	Corr.
MHz	dBm	dBm	kHz	cm		deg	dB
17926.805000	-41.95	---	1000.000	344.7	V	319.0	-86.0
17996.912942	---	-52.56	1000.000	135.9	V	21.0	-84.4

WCDMA 5 Mid channel 4180

Frequency	MaxPeak	RMS	Bandwidth	Height	Pol	Azimuth	Corr.
MHz	dBm	dBm	kHz	cm		deg	dB
17899.433333	-43.38	---	1000.000	387.5	V	112.0	-86.6
17943.255000	---	-53.94	1000.000	394.4	V	2.0	-85.6

WCDMA 5 High channel 4230

Frequency	MaxPeak	RMS	Bandwidth	Height	Pol	Azimuth	Corr.
MHz	dBm	dBm	kHz	cm		deg	dB
17998.348333	---	-52.59	1000.000	129.5	V	188.0	-84.3
17999.348639	-41.20	---	1000.000	122.9	V	235.0	-84.3

Annex C. Subcontracted Test Results

The results in this annex are issued from the subcontractor test report reference 45006RRF.002

A.1 Frequency stability over temperature variations.

GPRS 850 MODULATION (CH 190= 836.6MHz)

Temperature (ºC)	Frequency Error (Hz)	Frequency Error (ppm)	Frequency Error (%)
+50	9.56	0.0114	0.00000114
+40	12.85	0.0154	0.00000154
+30	13.75	0.0164	0.00000164
+20	10.94	0.0131	0.00000131
+10	8.72	0.0104	0.00000104
0	-12.66	-0.0151	-0.00000151
-10	-19.15	-0.0229	-0.00000229
-20	-27.31	-0.0326	-0.00000326
-30	-64.77	-0.0774	-0.00000774

EDGE 850 MODULATION (CH 190= 836.6MHz)

Temperature (ºC)	Frequency Error (Hz)	Frequency Error (ppm)	Frequency Error (%)
+50	11.69	0.0140	0.00000140
+40	12.20	0.0146	0.00000146
+30	13.69	0.0164	0.00000164
+20	11.20	0.0134	0.00000134
+10	9.75	0.0117	0.00000117
0	11.72	0.0140	0.00000140
-10	-18.08	-0.0216	-0.00000216
-20	-27.54	-0.0329	-0.00000329
-30	-41.49	-0.0496	-0.00000496

GPRS 1900 MODULATION (CH 662=1880.2 MHz)

Temperature (ºC)	Frequency Error (Hz)	Frequency Error (ppm)	Frequency Error (%)
+50	24.47	0.0130	0.00000130
+40	25.73	0.0137	0.00000137
+30	23.44	0.0125	0.00000125
+20	27.60	0.0147	0.00000147
+10	29.74	0.0158	0.00000158
0	30.61	0.0163	0.00000163
-10	37.55	0.0200	0.00000200
-20	36.58	0.0195	0.00000195
-30	47.36	0.0252	0.00000252

EDGE 1900 MODULATION (CH 662=1880.2 MHz)

Temperature (ºC)	Frequency Error (Hz)	Frequency Error (ppm)	Frequency Error (%)
+50	26.73	0.0142	0.00000142
+40	25.70	0.0137	0.00000137
+30	25.25	0.0134	0.00000134
+20	32.93	0.0175	0.00000175
+10	27.02	0.0144	0.00000144
0	30.22	0.0161	0.00000161
-10	34.03	0.0181	0.00000181
-20	36.10	0.0192	0.00000192
-30	45.10	0.0240	0.00000240

WCDMA V MODULATION (CH 4182=836.4 MHz)

Temperature (ºC)	Frequency Error (Hz)	Frequency Error (ppm)	Frequency Error (%)
+50	-10	-0.0120	-0.00000120
+40	-11	-0.0132	-0.00000132
+30	-13	-0.0155	-0.00000155
+20	-12	-0.0143	-0.00000143
+10	-9	-0.0108	-0.00000108
0	-14	-0.0167	-0.00000167
-10	7	0.0084	0.00000084
-20	-9	-0.0108	-0.00000108
-30	7	0.0084	0.00000084

HSUPA V MODULATION (CH 4182=836.4 MHz)

Temperature (ºC)	Frequency Error (Hz)	Frequency Error (ppm)	Frequency Error (%)
+50	-14	-0.0167	-0.00000167
+40	-11	-0.0132	-0.00000132
+30	-14	-0.0167	-0.00000167
+20	-11	-0.0132	-0.00000132
+10	-10	-0.0120	-0.00000120
0	-9	-0.0108	-0.00000108
-10	-16	-0.0191	-0.00000191
-20	-14	-0.0167	-0.00000167
-30	-11	-0.0132	-0.00000132

WCDMA II MODULATION (CH 9400=1880.0 MHz)

Temperature (ºC)	Frequency Error (Hz)	Frequency Error (ppm)	Frequency Error (%)
+50	16	0.0085	0.00000085
+40	-20	-0.0106	-0.00000106
+30	-18	-0.0096	-0.00000096
+20	14	0.0074	0.00000074
+10	15	0.0080	0.00000080
0	-26	-0.0138	-0.00000138
-10	-22	-0.0117	-0.00000117
-20	-25	-0.0133	-0.00000133
-30	-17	-0.0090	-0.00000090

HSUPA II MODULATION (CH 9400=1880.0 MHz)

Temperature (ºC)	Frequency Error (Hz)	Frequency Error (ppm)	Frequency Error (%)
+50	-22	-0.0117	-0.00000117
+40	-22	-0.0117	-0.00000117
+30	-20	-0.0106	-0.00000106
+20	-18	-0.0096	-0.00000096
+10	-21	-0.0112	-0.00000112
0	-22	-0.0117	-0.00000117
-10	-19	-0.0101	-0.00000101
-20	14	0.0074	0.00000074
-30	-22	-0.0117	-0.00000117

WCDMA IV MODULATION (CH 1762=1732.5 MHz)

Temperature (ºC)	Frequency Error (Hz)	Frequency Error (ppm)	Frequency Error (%)
+50	-11.89	-0.00686	-0,0000006862915
+40	-13.48	-0.00778	-0,0000007780664
+30	-15.48	-0.00894	-0,0000008935065
+20	-16.97	-0.00980	0,0001427249790
+10	-12.52	-0.00723	-0,0000007226551
0	-11.84	-0.00683	-0,0000006834055
-10	-12.63	-0.00729	-0,0000007290043
-20	-13.09	-0.00756	-0,0000007555556
-30	-12.06	-0.00696	-0.0000006961039

HSUPA IV MODULATION (CH 1762=1732.5 MHz)

Temperature (ºC)	Frequency Error (Hz)	Frequency Error (ppm)	Frequency Error (%)
+50	-12.93	-0,00746	-0,0000007463203
+40	-11.91	-0,00687	-0,0000006874459
+30	-12.77	-0,00737	-0,0000007370851
+20	-11.96	-0,00690	0,0000924980665
+10	-12.75	-0,00736	-0,0000007359307
0	-14.15	-0,00817	-0,0000008167388
-10	-12.17	-0,00702	-0,0000007024531
-20	-12.59	-0,00727	-0,0000007266955
-30	-14.46	-0.00835	-0.0000008346320

A.2 Frequency stability over voltage variations.

The nominal voltage is 3.3 V

GPRS 850 MODULATION

Battery Supply voltage	Voltage (V)	Frequency Error (Hz)	Frequency Error (ppm)	Frequency Error (%)
Vmax	3.795	17.08	0.0204	0.00000204
Vmin	2.805	13.56	0.0162	0.00000162

EDGE 850 MODULATION

Battery Supply voltage	Voltage (V)	Frequency Error (Hz)	Frequency Error (ppm)	Frequency Error (%)
Vmax	3.795	17.63	0.0211	0.00000211
Vmin	2.805	14.27	0.0171	0.00000171

GPRS 1900 MODULATION

Battery Supply voltage	Voltage (V)	Frequency Error (Hz)	Frequency Error (ppm)	Frequency Error (%)
Vmax	3.795	36.13	0.0192	0.00000192
Vmin	2.805	35.97	0.0191	0.00000191

EDGE 1900 MODULATION

Battery Supply voltage	Voltage (V)	Frequency Error (Hz)	Frequency Error (ppm)	Frequency Error (%)
Vmax	3.795	37.84	0.0201	0.00000201
Vmin	2.805	34.22	0.0182	0.00000182

WCDMA II MODULATION (CH 9400=1880.0 MHz)

Battery Supply voltage	Voltage (V)	Frequency Error (Hz)	Frequency Error (ppm)	Frequency Error (%)
Vmax	3.795	-18	-0.0096	-0.00000096
Vmin	2.805	-21	-0.0112	-0.00000112

HSUPA II MODULATION (CH 9400=1880.0 MHz)

Battery Supply voltage	Voltage (V)	Frequency Error (Hz)	Frequency Error (ppm)	Frequency Error (%)
Vmax	3.795	14	0.0074	0.00000074
Vmin	2.805	15	0.0080	0.00000080

WCDMA IV MODULATION (CH 1762=1732.5 MHz)

Battery Supply voltage	Voltage (V)	Frequency Error (Hz)	Frequency Error (ppm)	Frequency Error (%)
Vmax	3.795	-11.83	-0.00683	-0,0000008242424
Vmin	2.805	-14.28	-0.00824	-0,0000006828283

HSUPA IV MODULATION (CH 1762=1732.5 MHz)

Battery Supply voltage	Voltage (V)	Frequency Error (Hz)	Frequency Error (ppm)	Frequency Error (%)
Vmax	3.795	-11.26	-0,00650	-0,0000006499278
Vmin	2.805	-11.96	-0,00690	-0,0000006903319

WCDMA V MODULATION (CH 4182=836.4 MHz)

Battery Supply voltage	Voltage (V)	Frequency Error (Hz)	Frequency Error (ppm)	Frequency Error (%)
Vmax	3.795	-8	-0.0096	-0.00000096
Vmin	2.805	-15	-0.0179	-0.00000179

HSUPA V MODULATION (CH 4182=836.4 MHz)

Battery Supply voltage	Voltage (V)	Frequency Error (Hz)	Frequency Error (ppm)	Frequency Error (%)
Vmax	3.795	-15	-0.0179	-0.00000179
Vmin	2.805	-12	-0.0143	-0.00000143